THE BRITISH PTERIDOLOGICAL SOCIETY

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The BRITISH PTERIDOLOGICAL SOCIETY was founded in 1891 and is still a focus for fern enthusiasts. It provides a wide range of information about ferns through its publications and website. It also organises formal and informal indoor meetings, field meetings, garden visits, a plant exchange, a spore exchange and fern book sales. The Society has a wide membership that includes gardeners, nurserymen and botanists, both amateur and professional. The Society's journals, *The Fern Gazette*, *Pteridologist* and *Bulletin*, are published annually. *The Fern Gazette* publishes matter chiefly of specialist interest on international pteridology, the *Pteridologist*, topics of more general appeal, and the *Bulletin*, Society business and meetings reports. **Website: www.eBPS.org.uk**

Membership is open to all interested in ferns and lycophytes. **SUBSCRIPTION RATES** (due on 1st January each year) are Full Personal Members £20, Personal Members not receiving *The Fern Gazette* £16, Student Members £10, Subscribing Institutions £33. Family membership in any category is an additional £2. Applications for membership should be sent to the Membership Secretary (address above) from whom further details can be obtained. (Remittances in currencies other than Sterling are £5 extra to cover bank conversion charges.) **Airmail** postage for all journals is an extra £4, or for those not receiving *The Fern Gazette* £2.50. **Standing Order** forms are available from the Membership Secretary and the BPS website.

(**Front cover**: '*Pteris aspericaulis tricolor*'. Illustration from: G. Schneider (1894) *The Book of Choice Ferns* vol. 3.)

Back numbers of *The Fern Gazette*, *Pteridologist* and *Bulletin* are available for purchase from P.J. Acock, 13 Star Lane, St Mary Cray, Kent BR5 3LJ; E-mail: BackNumbers@eBPS.org.uk

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THE
BULLETIN
OF THE
BRITISH PTERIDOLOGICAL SOCIETY

Vol. 6 2006 No. 5

NATIONAL FIELD MEETINGS

ISLE OF WIGHT – 10-11 June

Saturday **Pat Acock**

At ten o'clock ten members and friends met up with Dr Colin Pope, the IoW BSBI vice-county recorder and our local organiser, in the St Catherine's Point car park (40/494758). Colin outlined the weekend's programme and we proceeded down the steep slope towards the sea. Areas of scrub had been grubbed out by the National Trust, giving an untidy appearance to this small area. Beyond this we encountered the breathtaking beauty of the landscape around the headland. The Undercliff is an area of slumped soft land between an inner cliff and the beach, which is constantly changing due to underwashing of the cliff by the sea. Our first botanical encounter was in an area of elm suckers with a surrounding 20-foot area of brambles. Having fought through these we rediscovered the rock that we had seen in 1990 with *Asplenium marinum* on it. All felt the effort had been worthwhile. The plants seemed to have become more numerous in the shadier environment, though there was some concern that it was now too deeply shaded.

We continued through a lovely area of woodland carpeted with *Asplenium scolopendrium*. We then scrambled down to the shore, taking advantage of the ropes provided, and then encountered one of the areas of more recent slippage, where we carefully crossed the chalky eroded soil scrub and small river whose course had changed. A little further on, about forty feet above the shoreline, we saw a solitary *Osmunda regalis* and immediately after that the start of the recently discovered large colony of *Equisetum* × *font-queri* that we had come to see. We had already noted *E. telmateia*, and further on we successfully sought out the other parent, *E. palustre*. All the time we were surrounded by butterflies, most notably the very local Glanville Fritillary. After lunch we were not so lucky crossing the stream, with several of the company sinking into the mud and having to be retrieved.

photo: C.R. Pope

Isle of Wight – examining *Equisetum* × *font-queri*
Graham Ackers, Alison Paul, Paul Ripley,
Lesley Williams (*in distance*), Pat Acock

We then moved on to the gardens behind the pond at Bonchurch (40/574780), where a fine colony of *Woodwardia radicans* has survived since Victorian times. At Shanklin Chine (40/582809) we saw ten native ferns and a few *Dicksonia antarctica* in this most beautiful spot. A cream tea at the end rewarded those who arrived before they ran out.

A few of us went to try to rediscover the *Oreopteris limbosperma* north-west of Godshill at 40/515832 that we had found on our last visit, but unfortunately it had been strimmed to oblivion. We then spent some time in Beacon Alley (40/515812), where we found *Polypodium* × *mantoniae* on the wooded banks. Further down Beacon Alley we had a few moments at the pond where the third colony of *Equisetum* × *willmotii* recorded for the country was found by Paul Stanley in 2005 (40/519812).

Sunday **Graham Ackers**

Following a very short drive from our Shanklin base on yet another hot day, we rendezvoused with Colin Pope and local naturalist Margaret Burnhill at the track leading to America Woods. Passing through some lovely Island countryside, we descended into America Wood (40/568821). Rather strangely, no-one can explain the derivation of this name. Most of this ancient woodland is owned by the Woodland Trust, and contains a mixture of trees including hazel, oak, ash, sweet chestnut and silver birch. A stream enters the wood to the north-west, and runs south through the length of the wood within its own alluvial valley, providing a humid habitat for ferns. Geologically this wood is in an area of sandstone beds and thus able to support a greater variety of species than the chalk beds dominating much of the Island's centre. The dominant ferns were *Dryopteris dilatata* and bracken (*Pteridium aquilinum*). Sporadically on drier banks the commonly associated *Asplenium scolopendrium* and *Polystichum setiferum* occurred, indicating perhaps the localised presence of some basic substrates. Being humid ancient woodland, *Dryopteris filix-mas* was uncommon, being supplanted by the *D. affinis* complex – some *D. affinis* subsp. *affinis* and some subsp. *borreri*. Many of the latter were quite robust with crinkled foliage (the 'frilly affinis'), suggesting *D.* × *complexa*. *Athyrium filix-femina* was almost totally confined to the damp streamside habitats. Large-fronded plants of *Polypodium interjectum* were observed in drier habitats. Colin showed us a small population of *Blechnum spicant* on a trackside bank. This is not a particularly common species on the Island, being "Local in wet acidic woodland, often on ditch banks, mostly in East Wight" (Pope, Snow & Allen, 2003). Where the stream enters the wood there is an expanse of marshy grassland, where large populations of *Equisetum* × *litorale* were inspected, together with smaller numbers of *E. fluviatile*.

photo: Brenda Smith

America Woods, Isle of Wight

Alison Paul (*in foreground*), Ray Smith, Jennifer Ide, Graham Ackers, Lesley Williams, Grace & Pat Acock, Andrew Leonard, Colin Pope

Colin left us at lunch-time amidst profuse thanks from the party for his organisation, sharing his considerable knowledge with us over the two days, and giving us his free time so willingly and enthusiastically. We were pleased to be able to show our gratitude by

presenting him with a copy of our *Polystichum* Special Publication. We then lunched in the garden of the Pointer Inn (recommended) at Newchurch.

Colin had suggested an afternoon itinerary in an area of damp woods by the Alverstone Mead Nature Reserve near Sandown. The first woodland area (at 40/586851) was difficult to explore, being overgrown with brambles and very marshy in its central strip. The dominant fern by far was *Dryopteris dilatata*, and indeed we would concur with its description in the Flora as "Common and widespread in wet and dry woodlands and hedge banks." Other pteridophytes present were *Equisetum arvense*, *E. fluviatile*, bracken in the drier areas, and *Athyrium filix-femina* in the wetter parts. However, our main purpose in visiting this wood was to see if we could find *D. carthusiana*, described in the Flora as "Rare and today restricted to wet woods, principally in our main river valleys. Perhaps overlooked, but certainly greatly declining." Again we would concur with this description, as we found only one specimen in what seemed to be a series of ideal habitats for this species. The second small wood explored (40/582850) was comma-shaped and alongside a golf course, but yielded little of interest. Within the third woodland area (40/579853), *Thelypteris palustris* had been recorded, but we were unable to relocate the population. "Very rare. Formerly, it was not uncommon in fens and carr woodland but has now greatly declined." However, we did note *Dryopteris filix-mas*, *Polystichum setiferum*, *Athyrium filix-femina*, *Polypodium interjectum* and the 'frilly affinis' again. And we did manage to find one more specimen of *D. carthusiana*!

REFERENCE

Pope, C., Snow, L. & Allen, D. 2003. *The Isle of Wight Flora*. The Dovecote Press in association with the Isle of Wight Natural History and Archaeological Society.

GERMANY – 29 June - 9 July

Introduction — Pat Acock

We all arrived at various times during 29th June and many *ad hoc* groups descended on Hamburg Botanical Gardens. The gardens did not seem to have many ferns outside, although a few common ones and cultivars were noted. However, the glasshouses turned out to be a total delight. Inside the entrance were many tropical plants and attached to a few of these were epiphytes such as *Rumohra adiantiformis* and a *Nephrolepis*. One house had Macaronesian plants at one end, merging into Australasian ones. Ferns included *Adiantum reniforme*, *Diplazium caudatum* and surprisingly, probably having spored itself from a now-deceased plant, *Dryopteris aitoniana* in a wall. Towards the end of the house among *Cyathea cooperi* and *Dicksonia antarctica* was a mix of interesting ferns, including *Cibotium schiedei*. But the very best was yet to come, for when we went into the final house there was a whole host of ferns in a dedicated area. It was highly humid, with a wall and well-weathered tree-trunks dripping with the most exotic of epiphytes all growing with consummate ease in what must have been carefully planned niches. There were adiantums. polypods, davallias, elaphoglossums and *Nephrolepis* on the trunks and walls, and *Adiantum trapeziforme*, diplaziums and a host of exotic plants on the ground. Most spectacular of all was a fertile *Elaphoglossum crinitum* of amazing proportions growing on the ground. I had only ever seen a few before and these were at the highest point in the Elfin Forest in Trinidad. This was one of the best fern houses I have ever visited and certainly unique with its most natural and well grown epiphytes, probably only bettered by Bert Bruty's Fern House at Kew in the 1950s and '60s.

Day 1, 30th June – Schleswig and Süderbrarup — Martin Rickard

In the morning our leader, Berndt Peters, organised a tour of the old town and cathedral in Schleswig, a very attractive small city in the north of Germany, not far from Denmark.

After lunch by a lake and then a short coach trip, we arrived at Süderbrarup and the home of our tour leader.

photo: R.G. Ackers

Berndt Peters' garden, Süderbrarup, Germany

Berndt Peters & Martin Rickard, with Rose Marie Schieber, Pat Riehl, Sue Olsen, Jennifer Ide

Berndt has lived here with his parents for many years and the garden has developed into one of the very best collections of hardy ferns in the world. The entrance, by a side gate, is modest but very soon interesting ferns appear. In a shady spot by a greenhouse was a selection of *Dryopteris* cultivars with a beautiful colony of *Gymnocarpium oyamense*. On the other side of the greenhouse, in sun, was an interesting collection of xerophytic ferns growing on a raised, gravelly bank. These included *Cheilanthes eatonii*, *C. fendleri*, *C. tomentosa*, *C. lanosa* and *Notholaena marantae*, with *Pellaea atropurpurea* and *Asplenium cuneifolium* thrown in for good measure. Moving on, ferns were everywhere in huge variety. The majestic *Matteuccia struthiopteris* 'Erosa', *Pseudophegopteris levingei*, *Dennstaedtia davallioides* and a truly magnificent form of *Osmunda regalis* Decomposita group raised by Berndt from spores. This plant was truly tripinnate and the best of its kind I have ever seen. In appearance it is a plumose *O. regalis* although it produces fertile spores.

Initially Berndt walked around the garden to give us a general introduction to the layout, ending up at a rock garden. This is made of large rocks imported from a long distance as there is no suitable rock in northern Germany. Ferns here were astonishing and included *Woodsia subcordata*, *W. fragilis*, *W. ilvensis*, *W. ilvensis* × *W. alpina*, *W. polystichoides*, *Asplenium incisum*, various *Asplenium* hybrids, *Dryopteris fragrans* and *Polystichum lachenense*. Nearby was *Blechnum nipponicum* and a selection of Chilean ferns. Scattered about elsewhere the following particularly caught my attention: *Osmunda lancea*, *O. japonica*, *Adiantum aleuticum* 'Laciniatum', *Polystichum setiferum* 'Vivien Green', *P. setiferum* 'Grandiceps Jones', *P. setiferum* Hirondelle group, *P. setiferum* 'Foliosum Walton' and *P. setiferum* 'Smith's Cruciate' and some fascinating progeny from it. The series of hybrid polystichums raised by Anne Sleep at Leeds many years ago were well represented, most notably, *P.* × *dycei* – a truly magnificent fern. Berndt's collection of polypodiums is comprehensive but sadly few were up at the time of our visit. His *Athyrium* cultivars included wonderful plumosums and aposporous 'Clarissima'.

Berndt lists 425 different species, subspecies and hybrids but his list does not include cultivars. If added, the total must be very close to the 682 taxa grown by Christian Kohout, which does include cultivars. The garden is a garden, not just a collection of ferns. It is well laid out in light woodland with interesting features including a stream, stumpery and of course the

rockery. At any time during our visit members of the party were welcome to wander into the cool of Berndt's house where his parents provided copious amounts of much needed tea and a wonderful range of delicious cakes. Our time here was all too short as we had to move off for dinner back in Schleswig but this was a truly magnificent way to start the tour.

Day 2, 1st July – Sievershütten and Ellerhoop Arboretum **Robert Sykes**

Saturday opened after an excellent breakfast and the daily bus ride with a visit to the remarkable garden of Wolfram Gassner at Sievershütten. When he came ten years ago the present garden was a field. It must have been a challenging site. A broad strip of about two acres of flat ground lies between the road and a marsh that is left wild as a nature reserve. This is the coldest part of northern Germany. The hardiness zone is 6/7. Last winter the temperature fell to –23°C (–9°F). Slugs and moles are a major problem.

photo: J.M. Ide

***Dryopteris pycnopteroides* in Wolfram Gassner's garden, Sievershütten, Germany**

Wolfram is a professional garden designer. He brought in a digger to raise a high bank to shelter the garden from the sight and sound of road traffic, and to excavate a pond and other features. The farther, wilder part of the garden is separated by a mole defence of mesh link fence over sunken concrete. There are already some fine trees, silver willows in particular having grown well in the last ten years. Grass tracks are kept mown between wild vegetation and some mature clumps of bamboo, young rhododendrons and other shrubs. An unusual feature of the main garden is a rockery, shade-covered and totally protected from slugs by an encircling moat. This allows him to grow a number of slug-vulnerable species such as *Dennstaedtia wilfordii*, *Blechnum nipponicum*, *Dryopsis nidus* and *Camptosorus rhizophyllus* and many species of *Polypodium* and *Asplenium* that would be decimated by slugs and snails outside the 'island'.

Unlike Berndt Peters' garden there were only a few fern cultivars, notably an attractive *Adiantum pedatum* with recurved pinnules, a sport in a tray of sporelings. But in fern terms, this is dominantly a species garden with a huge range, growing in carefully selected niches in 'plant communities' (his expression) among shrubs, ground cover and herbaceous planting: *Woodsia*, *Cheilanthes* and *Aspidotis densa* in rocky cracks within the moat, *Arachniodes standishii*, *Osmunda lancea* and *O. spectabilis* in dappled shade, *Hypolepis millefolia*, surprisingly, in full sun … and hundreds more (about 270 species in the garden plus some tree-ferns and subtropicals). As Jack Schieber remarked, "I keep having to remind myself I don't have to know what they are all called – I can just enjoy them."

A few of us went down to Wolfram's propagation room in the cellar. Many small plastic pans of spores and gametophytes, with larger trays of young sporelings coming on, all carefully numbered and recorded. *Trichomanes speciosum* and other filmy ferns grew in fish tanks.

The garden is work in progress – the current project is a conservatory, which will house not ferns, but cycads, at present squatting in the living room. Our thanks to Wolfram and Irene for their hospitality and the refreshments they generously provided.

photo: R.J. Sykes

***Cryptogramma acrostichoides* in Wolfram Gassner's garden, Sievershütten, Germany**

Our next call at the Ellerhoop Arboretum was very different. It is more like a garden than an arboretum, though there are some lovely trees, with extensive annual planting. It is open to the public and well patronised this sunny summer Saturday. The main fern interest is massed *Osmunda* at the foot of the lake (almost hiding a dinosaur calf). *O. regalis* was clear enough; *O. gracilis* was smaller; was the larger fern with *gracilis*-type fertile fronds a hybrid? There was also some of the purpurascens form and *O. claytoniae*.

Keen spirits enjoyed a conducted evening tour of Lübeck; others preferred to watch England being knocked out of the World Cup.

Day 3, 2nd July – Eutin, Glinde and Bremen **Graham Ackers**

Continuing the initial tour phase of northern German towns, in the morning we arrived at Eutin, and the garden of Dietrich and Sabine Nittritz. The garden is L-shaped, part along the side of the house and part in the rear, the whole being about one third of an acre, more manageable in my terms than some of the garden 'estates' visited earlier! Surrounding the garden were many mature trees, mainly conifers providing shade appropriate for fern growing and creating a classic woodland garden. The rear was particularly shaded, being dominated centrally by a large 35-year-old specimen of *Sequoiadendron giganteum*. As well as providing welcome shade, the tree dried the soil, so necessitating frequent watering. As to be expected, there were many fern taxa in the garden – well over 100 according to Berndt's list. Notable were the range of *Polystichum setiferum* cultivars and a number of the artificial *Polystichum* hybrid taxa of Anne Sleep. The side part of the garden included a lawn and was slightly less shaded than the rear. Throughout, carefully selected accompanying woodland plants included *Tiarella cordifolia* as ground cover, rhododendrons, arisaemas, polygonatums, hostas and cyclamen. Welcome refreshments on the sunny patio completed the visit.

Our afternoon trip took us to the small town of Glinde and the garden of Helmuth Schmick and his family. This was another relatively small garden with a most interesting and effective layout, being long and fairly narrow, and sloping away from the house. The dominant feature was a most attractive artificial stream meandering along the length of the garden, ending in a very large spring-fed pond. Surrounding this were some fine fern stands, including *Matteuccia orientalis* and various osmundas, with bogbean (*Menyanthes trifoliata*) decorating the pond surface. Of the approximately 130 fern taxa on Berndt's list, particularly noted were *Athyrium filix-femina* 'Minutissimum', a fine bright green clump of *A. yokoscense*, a lovely unnamed volunteer plumose *A. filix-femina*, a beautiful *Polystichum setiferum* 'Green Lace', a large *Dryopteris crassirhizoma*, *D. yigongensis* (new to me), and *D. monticola* in the small front garden area. Although bordered by conifers, the garden was a little too sunny for some of the ferns as a result of the removal of some large conifers in the neighbour's garden. In 1990, Helmuth wrote and published privately his handsome quarto book *Farne in Natur und Garten*, which some members of the party purchased. Also

for sale were fern and gardening books from his library. The family produced substantial quantities of sumptuous victuals, which we consumed in the garden.

Following a coach journey of about two hours, we arrived at our Bremen hotel for a two-night stay. The smallish centre of this famous city is most scenic, and our early evening tour centred on the Market Square with its many attractive buildings.

Day 4, 3rd July – Ottersberg and Stuhr **Pamela Weil**

Day Four was another clear, bright, hot day. It was also a distinctive day in that we visited both the largest and smallest private gardens on the tour. Christian Gutschow's garden in Ottersberg is over six acres. Ingo Carstensen's garden in Stuhr is about a quarter of an acre.

The Gutschow's garden is an enchanting maze of meandering paths among naturalistic plantings of ferns, rhododendrons and hollies. I counted 235 fern species and hybrids on Christian's plant list, and about 300 species and 300 hybrids of rhododendrons. It is an acid garden with a pH of about four. The soil is a mix of sand and peat and so Christian finds some polystichums a little difficult to grow. He solves the problem by burying a 20-litre bucket in the ground, which allows plant roots to be nourished by the improved soil mixture in the bucket – sand, peat, normal earth (he has to bring this in) and a handful of pebbles. There are stones in the bucket bottom but no drainage hole. There are about 30 buckets buried in the garden, sited under other plants as well as polystichums, including a six-foot-high *Dryopteris wallichiana* and some alpine rhododendrons.

Although all of our garden hosts were glad to see us, our afternoon host, Ingo Carstensen, was one of the most enthusiastic and welcoming. His garden is small but rich in habitats, with woodland, rock garden and pond. Tour participant Richie Steffen particularly enjoyed the rock garden: "His *Pellaea atropurpurea* was very nice and I liked its companion plantings of dwarf vacciniums and gaultherias." The rock garden also contained *Cheilanthes argentea*. Ingo finds this plant easy to grow from spores, but more difficult to keep alive. It does not like to be wet in winter. I was thrilled to see *Lygodium palmatum* (Hartford fern) for the first time. When we commented on the damage-free hosta leaves, Ingo shared his secret: he scatters blue slug pellets in the garden early in the year. Just one application is enough to keep the slugs away. There are brown pellets, but he says that they do not last as long.

Another fine full day spent ferning and learning while enjoying each other's company, finished by a meal in a restaurant in the quaint narrow streets of the nearby Schnoor district.

Day 5, 4th July – Hannover **Sue Olsen**

Warm sunshine and pastoral scenery greeted us as we left Bremen for Hannover and the fern garden and nursery of Mr Günter Stobbe. It was the only fern stop scheduled for the day and was also the fourth of July, a US holiday, which we were most content to celebrate with sprays of fern foliage rather than bursts of fireworks.

Mr Stobbe purchased his property of some 7,000 square metres in 1968, at which time it was a farm. In 1972 his hopes of turning it into a nursery were compromised by a lack of water, a problem that continues to this day. After trying roses, cut flowers and perennials, in the early 1990s fern specialists, including his mentor Professor Richard Maatsch, encouraged him to try ferns. The rest is history. To meet the watering challenge he covers the garden with a hefty mulch of leaves and litter, which he renews annually. This was springy underfoot and a true testament to the value of a good mulch for winter protection as well as water conservation. For the seriously thirsty ferns, i.e. osmundas, he buries plastic under the planting site.

The garden is arranged systematically with groupings of one genus per area, plus further refinements with one species per bed surrounded by its cultivars, a *Dryopteris dilatata* grouping, for example. His collection also contains some interesting individual specimens such as a super-sized *Athyrium filix-femina* 'Frizelliae' and a dwarf *A. filix-femina* 'Victoriae'.

Mr Stobbe exhibits in garden shows throughout Germany and has an impressive collection of gold medals and awards for his plants as well as his landscapes. His son creates wrought-iron sculptures such as a stylised set of croziers that accompany and enhance the exhibits.

We were lured away from the garden by dual gourmet treats – refreshments for the hungry and thirsty and plants for sale for those with a different appetite. The endless rows of plant stock, kept moist in non-draining flats with water in the bottom, included many a treasure, some of which are now residing in the UK.

Our travels continued towards Dresden through corn, wheat and potato fields as well as the forests of graceful power-generating windmills slowly turning with a steady and quiet swoosh. We picnicked at Marienborn, an historical site that was once a border crossing between East and West Germany and remains today as a grim reminder of those difficult times.

After enjoying a buffet dinner we were entertained by two slide-shows. Jennifer Ide presented a detailed programme of her research and interest in furniture created in the mid to late 1800s by New Zealand cabinet makers Anton Seuffert and his son William. The exquisite pieces feature inlaid ferns accurately representing New Zealand native species. Judith Jones followed with an interesting series of slides as a tribute to the late Jimmy Dyce and in memory of her special times with him. All in all it was a good evening's entertainment.

Day 6, 5th July – Elbsandsteingebirge, Polenztal and Dresden **Pat Riehl**

Today we drove to Elbsandsteingebirge, about ten kilometres from the Czech border, for a trek in the woods. Our goal was to see the prothalli of *Trichomanes speciosum*. I was told this area has the most fern species in Germany, including many not found in other parts of the country. Our guide was Stefan Jessen.

In the bus parking area we found *Equisetum arvense*. The woods were a mixture of oak, beech, birch and Scot's pine. Our first fern sighting was *Oreopteris limbosperma* and near it was *Phegopteris connectilis* mixed with blackberry. It was quite shady with filtered sunlight and we walked up a gully, climbing over fallen trees and crossing a narrow stream. We started to see a lot of *Dryopteris dilatata*, the most common fern in Germany. As we moved up the gully several people broke away to explore the upper sides of the slope. There was a discussion about *D. dilatata* and *D. expansa* – their colour, pinnule length, scales and sori. We next saw *Gymnocarpium dryopteris* growing among grasses with *Athyrium filix-femina* and *Dryopteris dilatata*. Nearby was *Blechnum spicant* and a *Matteuccia* thought not to be native to this area.

The soil had changed from limestone to sandstone. It was warmer and the forest had filled in with more conifers. We were in an area with sheer cliff walls but with pockets of open area. It was in one of these open areas that we saw the *Trichomanes speciosum* gametophyte. How Stefan found this is a total puzzle to me. One can only see it by standing on a rock and peering into a rock-wall crevice with a flashlight. Amazing. Along the way there had been talk of seeing *Hymenophyllum tunbrigense*. We stopped at one location where it was known long ago. Now there was only moss. High on a cliff was *Polypodium vulgare*. We continued to see *Dryopteris dilatata* and *D. expansa* and their offspring *D.* × *ambroseae*.

After climbing a very steep path we had lunch in a sea of *Equisetum sylvaticum*. It was beautiful. We headed back to the bus and along the way passed patches of *Blechnum spicant*. As we got to the bus it was discovered that two of our group were missing. While a search was made, some of us walked a short distance to a stone and mortar fortress bridge built on the side of a cliff, a major attraction in the area. The vistas were beautiful. We saw lots of *Asplenium trichomanes* and polypodiums growing in the mortar and rocks.

Our wayward members were found and we made our way to the second stop, Polenztal. We did two short walks here. The first was to a wood where we saw *Dryopteris affinis* subsp. *borreri* and *Athyrium filix-femina*. The second walk was along a road. On the cliffs above the

roadside bank were *Asplenium trichomanes* subsp. *pachyrachis* and subsp. *quadrivalens*. The former was growing in niches of this soft rock, flattened against the wall like starfish. As we walked back to the bus there was *Cystopteris fragilis* growing alongside the road.

After a long day of ferns, mosquitoes and ticks it was back to the bus for an hour's ride to Dresden and our hotel. Later, some of us had a guided tour of Dresden.

Day 7, 6th July – Weinböhla and Prietitz **Bridget Laue**

From Dresden we drove through lovely countryside, and past the beautiful 16th-century castle of Moritzburg, to Weinböhla. Herr Foerster's garden was slightly acid with underlying sandstone to which he had added thick layers of mulch. This was a 'collector's garden', which included rare hybrids from many parts of the world – Europe, North America, Japan, Taiwan, Korea, China and the Himalaya.

The well-labelled collections were organised into individual beds, species with their hybrids and cultivars. Some of the hybrids had occurred naturally here, while others were obtained from the collections of the Botanical Gardens of Berlin and Oxford, and some from Martin Rickard. Many were inherited from Herr Foerster's mentor Tadeus Reichstein, a Swiss scientist awarded the 1950 Nobel Prize in Medicine, who used his prize money to fund research in fern hybridisation, particularly with *Asplenium* species.

The collection included approximately 30 cultivars of *Polystichum setiferum*, 30 other species of *Polystichum*, 12 species and cultivars of *Athyrium*, 12 cultivars of *Asplenium scolopendrium*, 30 cultivars of *Dryopteris affinis*, and 15 of *D. filix-mas*. Other particularly interesting specimens included *Dryopteris marginalis*, *D. pycnopteroides*, *Athyrium otophorum* var. *okanum*, *A. niponicum* 'Green form' and 'Pictum', *Polystichum acrostichoides* × *P. setiferum*, and *P.* × *meyeri* (*P. braunii* × *P. lonchitis*).

Christian and Margit Kohout's garden in Prietitz was truly amazing. With about 700 different ferns, it probably contains the largest collection of hardy ferns in Europe, if not the world. As well as being a keen fern enthusiast, Herr Kohout is a professional landscaper. Over the years, he has transformed the 2,500 square metres of solid clay soil into a cleverly contoured fern paradise accessed by winding stone paths. Great care has been taken to create appropriate conditions for each type of fern, while maintaining the aesthetic beauty of the garden. Some very large and unusual conifers, bamboos and shrubs provided the shade and background for the ferns.

Different areas displayed groupings of species of *Athyrium*, *Polystichum*, *Asplenium*, *Woodsia*, *Cystopteris* and polypods. Among the numerous interesting and unusual ferns some that stood out were *Onychium japonicum* and *O. tenuifrons*, *Dryopteris expansa* var. *willeana* from Norway, *D. scottii*, *Polystichum multifidum* from Chile, crosses between *P. scopulinum* and *P. munitum*, *P. stenophyllum*, *P. acrostichoides*, *Coniogramme* sp., *Osmunda regalis* 'Decompositum', *Gymnocarpium jessoense* and *G. fedtschenkoanum*, *Polypodium scouleri*, *Microlepia sino-strigosa* from China, *Asplenium adulterinum*, *Parathelypteris beddomei*, *Dennstaedtia wilfordii*, *Woodsia fragilis*, *W. polystichoides* 'Kamchatka', and many more.

That day it was 32°C in the shade! But our hosts took good care of us by providing a spread of hot and cold drinks, sandwiches, pastries and a special cake for Pat Acock.

At the end of the visit, Herr Kohout took a few of us to see a nearby active kaolin clay pit, typical of those supplying the famous Dresden china factory. A meadow of *Pilularia globulifera* grew where water stood in the exhausted pans.

It was a short drive to the picturesque small town of Kamenz, where our charming hotel stood in the main square opposite the Rathaus.

Day 8, 7th July – Zöblitz **Richie Steffen**

On arrival in Zöblitz the group split into two, some staying to see the sights in town, the rest heading for a day in the serpentine areas on the outskirts of Zöblitz. The serpentine stone has been mined in this region for hundreds of years because of its beautiful colouring and its easy workability. Unfortunately, due to the destructive nature of stone removal, the area's unique plant life has suffered from these practices. In 1996 our guide Stefan Jessen and some of his colleagues started a project to protect and enhance the rare fern populations of serpentine areas in Saxony.

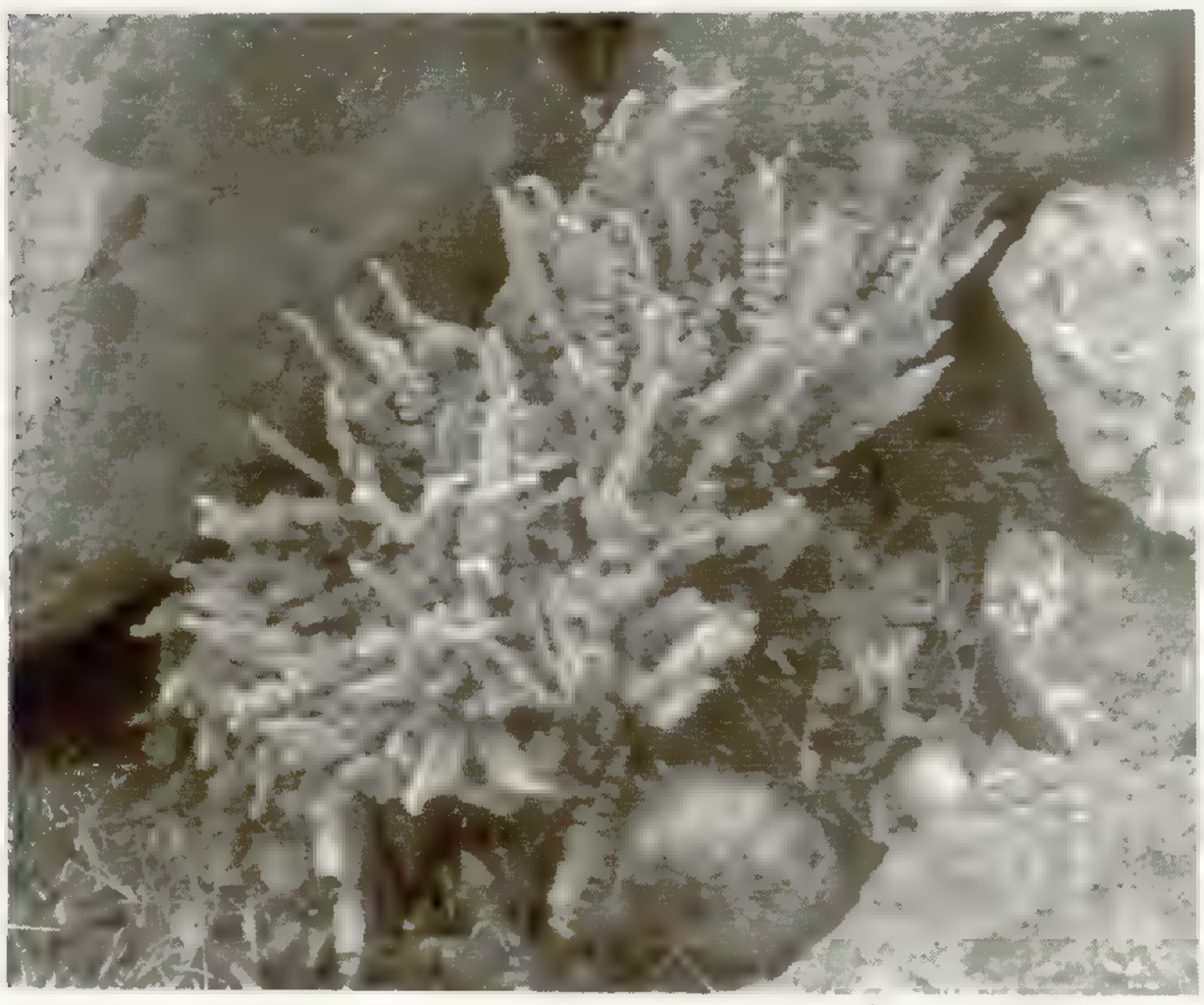


photo: R.G. Ackers

***Asplenium* × *poscharskyanum* at Zöblitz, Germany**

It was the day to see rare aspleniums. The first stop was in an area developed by Stefan's project. It consisted of mine tailings piled up and planted with *Asplenium cuneifolium*, *A. adulterinum* and the very rare hybrid between *A. adulterinum* and *A. viride*, *A.* × *poscharskyanum*. *A.* × *poscharskyanum* was originally represented at this site by a single plant, which was divided and has been re-established in the area. Throughout the area were scattered individuals of *A. cuneifolium* and *A. adulterinum* that had started to repopulate the area naturally.

A short walk from here was a small ravine with an outcrop of stone at the end. We scrambled down to look at the only existing colony of *A. viride* at this location. The grassy sides of the ravine were shaded by birch and mountain ash and held a few patches of *Athyrium filix-femina*, *Dryopteris dilatata* and *D. filix-mas*. We stopped for a quick lunch

photo: S. Jessen

Serpentine site near Zöblitz, Germany

Pat Acock, Jennifer Ide, Jack Schieber, student, Stefan Jessen, Juergen Schieb (*seated*), student, Richie Steffen, Sue Olsen, student, Robert Sykes (*seated*), student, Berndt Peters (*back*), Paul Sharp, Bridget Laue, Peter Meegdes, Joy Neal, Christian & Margit Kohout, Judith Jones, Martin Rickard, Tom Stuart, Graham Ackers

then continued on to our last site near the quarry. This relatively new pile of mine tailings was very coarse and rocky. New plantings of *Asplenium cuneifolium* had recently been established, with research ongoing to improve the growing conditions in this site. Nearby, not intentionally established, was a quickly spreading colony of *Equisetum arvense*. We all hope this will not be the only fern to thrive in this area.

After a short hike past a nearby village we reached the final destination for the day, an old mining site that contained a deep pond surrounded by light woodland and open meadows. In an aspen grove among grass and sparse tall wild flowers were a few patches of the unusual *Ophioglossum vulgatum*. Mostly sterile fronds were present, with an occasional fertile frond. Beside the aspen trees was a small hill. On a cleared grassy north-facing slope Stefan pointed out a few isolated individuals of *Botrychium lunaria* and a slowly spreading patch of *Gymnocarpium dryopteris* tucked among heather, *Vaccinium vitis-idaea*, and scattered groups of *Huperzia selago*. It was a good finish to our day looking at the unusual flora of this serpentine site.

Addenda by Berndt Peters: That evening at our hotel in Chemnitz we had a delicious buffet dinner. Afterwards, Richie Steffen showed slides of the beautiful flora and especially ferns of Chile, taken during his visit in 2005. Sue Olsen then presented some slides of especially rare and beautiful ferns in her own and other fern gardens.

Day 9, 8th July – Chemnitz, Arktisch-Alpiner-Garten **Tom Stuart**

Today we saw Stefan Jessen in his role as curator of the Arctic Alpine Garden, an undertaking of the Walter-Meusel Trust. Meusel was a lyricist and writer by profession, a lover of hardy rock plants by avocation. Among his books are those on *Equisetum*, the lycopods and hardy rock plants. This garden in suburban Chemnitz was begun in 1956 and became public on Meusel's death in 1990. The trust maintains the garden and sponsors projects on propagation of endangered species and re-establishing them in the wild, one of them being the aforementioned serpentine *Asplenium* project.

As this was one of the few gardens where plants were on sale, our arrival was immediately followed by a stampede. If you could deal with the import regulations, this amazing array of plants would be reason enough to smash the piggy bank. Moreover, quite a few offerings were not in the catalogue.

Less than an acre (2,800 square metres) and with 6,000 alpine taxa, this garden set no tour record for a pteridophyte checklist, but it was world-class nonetheless. Particularly strong collections both in the garden and in the sale offerings were among the saxifraga, cassiope, empetrum, gaultheria, salix and dwarf rhododendrons.

Another aspect deserves particular note. We have all seen botanical gardens lay out beds devoted to continents. Here the concept was expanded, with two dozen or more mountain ranges as targets. Moreover, within these targets – Caucasus, Pyrenees, Himalaya, South-western Alps, etc. – plants were assigned also to their appropriate ecological habitats. What an undertaking! North America did get short shrift among the beds, fine clumps of *Cheilanthes fendleri* and *Cryptogramma acrostichoides* notwithstanding. A particularly handsome bed was New Zealand's, with *Blechnum minus*, the fronds elliptic and pinnate, *Polystichum vestitum* with shiny scales and bipinnate lamina, and *Hypolepis millefolium* – the specific name tells it all. What you do not often see in gardens are lycopods, for the very good reason that many have fungal associations or strict cultural requirements. Here, the circumpolar *Lycopodium annotinum* was running amok in the German Middle Mountains bed, and there was *Huperzia selago* on the sale tables (I missed it in the garden).

In a propagation house all heads were turned by a sturdy, pinnatifid *Asplenium* hybrid, *A. scolopendrium* × *A. trichomanes* subsp. *hastatum*, recently discovered in the Italian Alps, as yet unnamed and undescribed.

Day 10, 9th July – Bendorf and Altena **Judith Jones**

We boarded the bus and headed for Dirk Wiederstein's fern nursery a short ride away in Bendorf. Our appetites for acquiring a few of the treasures so wonderfully displayed in the gardens we visited had been whetted but not satisfied by our buying frenzy at Stefan Jessen's remarkable alpine display garden and nursery the day before.

The temperate ferns were neatly laid out in flats on the ground in two small greenhouses. Naud Burnett of Casa Flora in the USA was particularly pleased to see many ferns produced by his nursery making a nice showing in the sales area. The nursery has a small display garden nearby with some very fine specimen stock plants. One *Polystichum setiferum* cultivar that caused quite a bit of excitement and exuberant discussion was 'Wollastonii', which was reported to be from the original plant. 80

Back on the bus we settled in for a two and a half hour ride to Altena for our last visit. This town nestles on the sides of a very steep valley. Perched on the rim of the valley is a massive stone castle that we were told was the first youth hostel in the world. Rolf and Angelika Thiemann's fern garden was a magical place to end our tour. The gardens begin with a stone patio and rock walls and knee-level planting beds that descend down to a level area with a charming garden cottage, where we enjoyed our lunch overlooking a grassy area around a waterfall and pond.

photo: J.M. Ide

Rolf & Angelika Thiemann's garden, Altena, Germany
Athyrium filix-femina 'Victoriae' (*centre*),
with *Polypodium interjectum* 'Cornubiense',
Adiantum venustum & *Asplenium scolopendrium*

But cosy as the cottage was, we could not wait to see what was in the adjacent raised bed and planted up the steep hillside behind the cottage. The fern list for this garden had 258 entries. I was most taken with the *Polystichum* hybrids Mr Thiemann had collected from other growers and created himself. These hybrids were well displayed on the terraced hillside, flanked by a vertical stone wall that hosted *Asplenium* species and hybrids. One of the most striking and interesting *Polystichum* hybrids to me was *P. munitum* × *P. andersonii*, arching out magnificently from the rock wall just as one descended to the lower garden. Of course questions were flying as to Mr Thiemann's method of creating these hybrids. He began by sowing the spores of *P. aculeatum* with those of *P. setiferum*. Out of 100 resultant plants, ten were *P.* × *bicknellii*. He now sows each species separately and then pairs up the gametophytes and finds that 20 to 30 pairs will yield two to three hybrids.

The trip back up the hill seemed a breeze as we all chattered about the beauty of our last stop. We headed for Koln for our final evening together. Thanks and presentations were made to our tour leaders. Berndt Peters was our patient and long-suffering tour organiser, host, and solver of all problems. Fay Mandt, our tour translator, was presented with a giant bouquet and heartfelt thanks for her irrepressible Irish humour; she brought a lively sense of fun to the whole excursion. And I cannot imagine ever wanting to traverse German roads without the mind-boggling expertise and kind attentions of Berndt, our bus driver.

In Conclusion **Pat Acock**

One could not help but draw comparisons with our trip to Pennsylvania the previous year. The gardens all contained a large number of different species and the climate was very similar with really cold winters and hot summers. Perhaps here in Britain the warm damp winters with sporadic moderate frosts kill our ferns. Many of the ferns seen in Germany I have known to be cultivated by our members, however, I have never seen so many ferns and would not have believed it possible to grow such a wealth of plants.

If you have never been on one of our excursions, I would encourage you to try one. All our hosts were so generous with their time, hospitality and sharing of their plants and I must apologise to any of them if we seemed to be a little informal in our approach at times. The company does form a significant part of the excursion, with informal discussions, not always on ferns. The evenings together in the open-air squares for dinner were simply marvellous. We must thank our coach driver Berndt who added considerably to the fun and to Frances (Fay) Mandt our interpreter, who has subsequently rejoined the Society.

Most of all we must thank our leader Dr Berndt Peters who so generously picked up the challenge and so meticulously planned the whole event, taking him the better part of two years. We learned so much about Germany and her people from our time together. Thank you Berndt, and now you must relax and come on another of our excursions as a participant.

SETTLE, NORTH YORKSHIRE – 22-23 July

Moughton Fell (Saturday) **Bruce Brown**

Moughton Fell, rising to 427 metres, is part of the Ingleborough massif north-west of Settle. Its broad plateau consists mostly of well-developed Carboniferous limestone pavement, in places shattered by erosion, so is ideal terrain for a wide selection of woodland relict plants and ferns, using the grykes for protection and shade. In pockets of acidic soil and peat, heather and, notably, juniper also occur. In particular for us, it is one of a handful of sites in the Yorkshire Dales where *Polystichum lonchitis* flourishes, and over a number of visits I had managed to locate nearly 80 plants. This total was pushed up to around 100 by the end of our day.

A few years ago the North-West Group explored here, and with some kind assistance from Frances Haigh we decided to follow a similar route. From our start point in Crummack Lane (34/771706) near Austwick village, a good turn-out of 32 members set off in extremely hot, sunny conditions, but with the threat of forecast thunderstorms in the afternoon, which fortunately did not materialise. The first part of the route along walled lanes through Crummackdale was on Silurian rock, which is generally slaty and acidic. Typical wayside ferns were seen – *Dryopteris filix-mas*, *D. dilatata*, *Athyrium filix-femina* and *Pteridium aquilinum*. As we reached a bridged ford over the beck others were added – *Oreopteris limbosperma*, *Blechnum spicant* and *Equisetum arvense*. A narrower lane attractively bedecked with more of these ferns led us eventually up to Whetstone Hole (34/782718) where the marshy stream, now calcareous, yielded *Selaginella selaginoides* growing amongst interesting sedges. A nice patch of *Asplenium ruta-muraria* graced a boulder and the base of the wall by the track revealed occasional *Cystopteris fragilis*, *Asplenium trichomanes* subsp. *quadrivalens* and just two plants of *Phegopteris connectilis*.

The serious climb up to the Moughton plateau commenced and it was most welcome to reach the top and catch a little cooling breeze on the scarp edge. Now we were on the limestone pavement with all its typical ferns in abundance as we meandered across the top – *Polystichum aculeatum*, *Cystopteris fragilis*, *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *A. viride*, *Gymnocarpium robertianum*, *Dryopteris filix-mas* and *D. affinis* subsp. *borreri*. *D. submontana* was well nibbled by the sheep, more so than the other ferns. Many were rather limp-looking in the hot, dry conditions, as indeed were we! Under the juniper and in more acidic soil we found occasional specimens of *Athyrium filix-femina* and *Dryopteris affinis* subsp. *affinis*.

The first *Polystichum lonchitis* to be seen was near the boundary wall (34/790718), then a few more nearby, some of which had protective stone shelters built around them, presumably to prevent sheep or rabbit grazing. Their tough leathery fronds seemed to be unaffected by the hot dry conditions. More plants appeared and lunch was taken at 34/787716 surrounded by at least 30 *P. lonchitis* growing close together in the limestone pavement around our feet and also, very luxuriantly, underneath the juniper bushes. A superb spot! We also looked at two rather strange polystichums first spotted on my recce. They had the appearance of young *P. aculeatum* but dead brown fronds showed they were more than one season old and sori were present on some fronds. A debate ensued as to whether they might be *P.* × *illyricum*, but the overall consensus was that they were a form of *P. aculeatum*. Later I sent pinna samples with sori to Ken Trewren who, after a microscopic check, was happy to confirm *P. aculeatum* for one plant but thought the other to be worth a chromosome check because of its strange empty spores lacking ornamentation.

Polypodiums were also spotted. A good colony of *P. vulgare* was sharing a limestone outcrop with juniper, and Barry Wright noted a single plant of *P. interjectum* in a gryke close to our first *P. lonchitis*. In one place under the juniper there was an unusual but attractive combination of *P. lonchitis* and *Blechnum spicant* (34/787715). Then Martin Rickard took me on a search for a *P. lonchitis* colony he recalled seeing 20 years ago. He found it too – about 20 plants over the wall in the English Nature reserve, a new area for me.

By the stile on the top of Studrigg Scar we met up with the rest of the group who were enjoying the cooling breezes. The descent was steep, down limestone scree, past another flush area with *Selaginella*, then on to some block-scree where we checked out some *Dryopteris* but saw nothing new. Eventually we reached the lane of our outward route by the ford, where a paddle was irresistible for some, only to be surpassed by a cooling drink in the pub garden at Austwick.

Later on we gathered for an al fresco meal at the Hart's Head in Giggleswick. Thanks to Barry Wright for making the arrangements and also for the excellent information pack he produced for the weekend.

Bolton Abbey and Strid Wood (Sunday) **Alison Evans**

photo: B. Wright

Bolton Abbey, North Yorkshire

Howard Matthews, Paul Sharp, John & Brenda Wilson, Bridget Laue, Matt Stribley, Bruce Brown, Alison Evans, Graham Ackers, Pat Acock

In hazy sunshine we gathered at Bolton Abbey (north-east of Skipton) outside the Cavendish Pavilion café at the entrance to Strid Wood (44/077552). This ancient wood is an SSSI and one of the largest areas of acidic oak woodland in the Yorkshire Dales. We walked upstream along the west bank of the Wharfe, finding some good plants of *Polystichum aculeatum* almost immediately inside the wood, in addition to the usual *Athyrium filix-femina*, *Dryopteris filix-mas* and *D. dilatata*, *Asplenium scolopendrium*, *Pteridium aquilinum* and *Polypodium vulgare*. Barry also found a crested form of *Dryopteris dilatata*. Some of us were distracted by a splendid stand of monk's-hood in full flower, but soon returned our attention to the ferns on the banks to our left, adding *Oreopteris limbosperma*, *Blechnum spicant*, *Polypodium interjectum* and *Dryopteris affinis* subspp. *affinis* and *borreri* to our list. A little further on there were large stands of *Phegopteris connectilis*, from memory quite a lot bigger than when the Leeds group visited in 2002. The fronds were in beautiful condition and very photogenic. In amongst this beech fern there were some nice stands of oak fern, *Gymnocarpium dryopteris*.

Shortly after this we reached the famous Strid, where the Wharfe is funnelled into a narrow gorge that people have been known to jump, or in some cases, attempt to jump – it is easy to come to grief here, as Barry warned in the information booklet for the meeting. We spent some time taking pictures and exploring the rocks, finding only a small *Cystopteris fragilis*. Back on the main path again we found the gametophyte of *Trichomanes speciosum* deep inside holes in the rocks. By the time we had all taken turns to peer inside, it was lunch-time and the various requests for sun, shade, by the water and not under the trees could fortunately be met near to the large stone bridge. We added *Equisetum arvense* to our list at this stop.

After lunch we crossed the bridge and walked back downstream on the eastern side, not finding any new species until we reached the road and (some of us) walked up the hill to see massive stands of *Equisetum telmateia* on both sides of the road. The famous Laund oak stands by the side of the road, with a huge, gnarled, hollow trunk.

photo: A.J. Evans

Bruce Brown in front of stand of *Equisetum telmateia*, Bolton Abbey, North Yorkshire

Retracing our steps, we walked further downstream and across the fields to Bolton Abbey (44/073541). The Abbey walls host many colonies of *Asplenium ruta-muraria* and *A. trichomanes* subsp. *quadrivalens*, as well as *A. scolopendrium* and *Polypodium interjectum*. The only other fern we saw at this site was male fern. We headed back down to the car park, and many of us were able to round off a splendid weekend with a welcome cup of tea in Ann Gill's delightful garden in Addingham.

TAMAR VALLEY, WEST DEVON/EAST CORNWALL – 16-17 September

Andrew Leonard (Saturday) & Paul Ripley (Sunday)

On Friday evening about 20 members descended on the Rifle Volunteer Inn for a convivial evening discussing the weekend ahead.

The River Tamar, with its steep wooded valleys, forms the boundary between Devon and Cornwall and flows into the sea near Plymouth some 14 miles downstream from Cotehele Quay. It was at this picturesque quay (20/424681) that we met on a beautiful late summer morning. On the walls of the buildings could be found several wall ferns but the most spectacular was *Adiantum capillus-veneris* growing luxuriously in the deep arches of the limekilns, some fronds reaching two feet long. We walked from the quay along a lane and into the woods. There were around 19 species of ferns to be seen, the most interesting being many plants of *Oreopteris limbosperma*, one plant of *Polystichum aculeatum* and a few small plants of *Dryopteris aemula*.

After a leisurely packed lunch back at the quay, the party assembled for a group photo in an arch surrounded by *A. capillus-veneris*. We then proceeded cross-country to visit a wall near a pub in Upton Cross (20/280723). Here grew a fine colony of *Asplenium obovatum* subsp. *lanceolatum* (or *billotii* as I prefer to call it).

photo: M.J. Stribley

Limekilns, Cotehele Quay, Cornwall

Paul Ripley, Tim Pyner, Jennifer Ide, Martin Rickard, Graham Ackers, Claire Roper, Christine Mullins, Pat Acock, Andrew Leonard, Bryan Smith, Steve Munyard, Roger Golding, Lesley Williams, Karen Munyard, Paul Sharp, Gill Smith, Grace Acock
In front: Clare & Mark Kitchen, Bridget Laue

Next we drove to the bottom of Sharp Tor (20/268741) and experienced the only energetic walk of the weekend, up to the top of the Tor. From here you could see from Lundy Island in the north to Plymouth and the Roseland Peninsula in the south. In the shady places in the rocks could be found very dry plants of *Hymenophyllum tunbrigense* and *H. wilsonii*. *Huperzia selago* was found amongst grassy patches on rocky outcrops.

This was the end of ferning for the day and the party split up for light refreshments. In the evening we all met up again at the Crooked Spaniard at Cargreen for an excellent meal. In the walls outside the pub we were shown large plants of *Polypodium cambricum*.

On the Sunday we met at Canover Bridge (20/554645), south-east of Yelverton. We were joined for the day by Roger Smith, BSBI vice-county recorder for South Devon. Near the northern (upper) car park we explored some old china clay workings that had filled with water. The water itself was murky and the plants covered in a clay deposit. *Isoetes echinospora* had been reported from here, but conditions seemed far from suitable. In damp areas we found *Equisetum palustre* and *Lycopodiella inundata*, the latter thriving and fruiting. Other ferns found in the area were *Oreopteris limbosperma*, *Blechnum spicant*, *Pteridium aquilinum*, *Dryopteris affinis* agg., *D. dilatata* and *Athyrium filix-femina*.

Near the lower (southern car park) we followed the river valley. We found *Hymenophyllum tunbrigense* here but not *H. wilsonii* as had been previously reported. *Polypodium* was abundant, and on some trees *P. vulgare* was present just below *P. interjectum*.

Our second stop was the disused railway that runs south from Tavistock (20/482747). *Asplenium trichomanes* (presumably subsp. *quadrivalens)*, *A. ruta-muraria*, *A. adiantum-nigrum*, *A. lanceolatum* subsp. *obovatum* and *A. scolopendrium* were seen on the walls of Kilworthy Road car park and the railway viaduct above the town. Along the railway, cut through sheer moss-covered rock-faces we found *Dryopteris filix-mas*, *D. dilatata*, *D. affinis* subsp. *affinis*, *Blechnum spicant* and large *Polypodium interjectum*. *Polystichum setiferum* was occasionally present, one plant of *P. aculeatum* was cleverly found by Christine Mullins, and *P. aculeatum* 'Divisilobum' was presumably a garden escape. However, the main point of our visit was to see *Cystopteris diaphana*. This was quite common along one stretch and we were able to note the long, lanceolate fronds, bright green colour and veins that ended in a sinus, all features distinguishing *C. diaphana* from *C. fragilis*. A probable *Dryopteris* × *complexa* nothosubsp. *critica* was also found.

In the afternoon, after a brief stop to see *Equisetum arvense*(!), we travelled along extremely narrow lanes to Creason Wood, near Peter Tavy (20/531804). This beautiful wood featured very large plants of *Osmunda regalis* growing on the banks of the River Tavy. Also seen were *Polypodium interjectum* (and possibly *P. vulgare*), *Oreopteris limbosperma*, *Asplenium scolopendrium*, *A. trichomanes*, *A. adiantum-nigrum*, *Dryopteris filix-mas*, *D. dilatata*, *D. affinis* subsp. *borreri* and *Pteridium aquilinum*.

photo: A. Leonard

Cystopteris diaphana, near Tavistock, Devon

Most members left at this point, but a few of us went to see the *Cryptogramma crispa* site near Princetown. Three small plants were hanging on, on degraded walls of long-disappeared quarry buildings at Whiteworks (20/613710).

A most satisfactory meeting with a wide range of habitats and fern species was enjoyed by a very good number of members, and we are most grateful to Roger Smith, Claire Roper (for help with the Cornish sites) and particularly to Matt Stribley who stepped in for Ian Bennallick, for leading a successful and enjoyable meeting.

LA RÉUNION, INDIAN OCEAN – 20-29 October

Introduction — Pat Acock

Whilst in Austria with the GEP (Group of European Pteridologists), Caroline Van den Heede showed me some of her pictures of La Réunion, taken whilst tracking down *Asplenium cordatum* for her research. I discussed the possibility of a BPS meeting with both Rémy Prelli and Michel Boudrie, both of whom had visited the island, and they sent Paul Ripley and I annotated maps and personal notes from their excursions. I bought all the detailed maps of the island and early in 2005 Paul and I booked our flights and hotel for a reconnaissance. We arrived on the island and marvelled at the luxuriance of the ferns but were overwhelmed by the numbers and were hard pushed to name even a handful. Michel had given us the name of a contact on the island, Edmond Grangaud. After two days Edmond found us and rescued us from our ignorance. We spent the next three days in the field with our most excellent and patient tutor and in the evenings we pored over books whilst being looked after by Edmond's wife Marie-Françoise, who so generously took us into her home and fed and watered us.

Our worries as to whether or not Edmond would be available to help us the next year were dispelled when we arrived four days early to finalise the tour and were met by Edmond. He had worked out the whole programme and would spend the entire time with us.

La Réunion is situated in the Indian Ocean about 500 miles east of Madagascar at latitude 21°S and longitude 55°E. The island emerged above the surface of the ocean some two million years ago. The oldest volcano is Piton de Neiges and this has been dormant for approximately 20,000 years but the second peak, Piton de la Fournaise, has been regularly erupting for the last 350,000 years and was quite active while we were there. It erupted so much in 2002 and 2004 that it built up the east side of the island out into the sea.

Day 1, 20th October – University and Western Island — Martin Rickard

After a largely sleepless long-haul overnight flight going three time zones east we did not arrive in La Réunion particularly bright-eyed and bushy-tailed, but the excitement of the future ten days somehow sustained us into a very interesting first day.

After sorting out the hire cars we were whisked off to the Université de La Réunion via numerous roundabouts. There we were met by Professor Dominique Strasberg who introduced us to his staff in the botany section and their ongoing projects, and kindly produced very welcome refreshments. It was very encouraging to learn that our guide for the coming week, Edmond Grangaud, whom we had not met at that time, was almost certainly the best pteridologist on the island.

We were then joined by a large group of university students and staff for a lecture from Klaus Mehltreter. Klaus had travelled out on the plane with us having come beforehand from Mexico, yet he did not seem at all tired as he gave us a fascinating insight into the ecology of tropical forests. He discussed the huge range of characters for identifying ferns and all sorts of fascinating ecological observations. For example ferns on Mayan ruins are rarely fertile; ferns often have shiny leaves in rainforest; tropical ferns do not always produce spores all year round; tree-ferns can grow up to 90 centimetres of trunk per year; *Blechnum fragile* only grows on tree-fern trunks, etc., etc. It was all very thought-provoking and we were fortunate that Klaus spent the entire excursion with us, giving each of us ample time to pick his brains and discuss the interesting phenomena so commonly encountered in the tropical forests of La Réunion.

We retired to a secluded dining room for lunch, very generously provided for us by the Université de La Réunion. A quick tour of the university's laboratories was followed by a long drive from the island's capital, St-Denis, south to our centre for the duration, St-Pierre. On arrival in St-Pierre we were greeted by traffic jams and detours – our hotel was

inaccessible because the town centre was closed for the celebration of Divali! Eventually after much frustration we did manage to get to the hotel courtesy of a police escort – after tough negotiating from Paul! The fireworks just outside our hotel bedrooms were barely noticed as we eventually crashed exhausted into our beds.

Day 2, 21st October – Cirque de Cilaos and Forêt de Bon Accueil **Alan Ogden**

After all the noise and difficulties of the previous day we were allowed a late start on our first excursion into the uplands. Eight a.m. saw us meeting Edmond and poring over maps in the hotel foyer before loading our gear into the vehicles. Our convoy made its way up into the interior with only a brief stop at the *boulangerie* for supplies.

As we passed through the extended area of small farms and habitation that cover the lowlands of the island we caught brief glimpses of the crops and gardens. Sugar cane seemed to be common and there were bananas and other more mysterious fruit. The locals appeared to be keen gardeners with mainly introduced plants such as 'busy Lizzies' and bougainvillea. Many gardens had the introduced Australian tree-fern *Cyathea cooperi*, which is a common escape.

The road twisted and turned, the surface remarkably good and we had occasional views of the coast far below. Eventually we reached a small clearing with small picnic huts provided by the Office National des Forêts, the reason for the popularity of the place becoming clear when we looked over the edge of a cliff into a giant amphitheatre, the Cirque de Cilaos. The view was stupendous, a circle of mountains surrounding a base ribbed with steep-sided ridges and all clothed in green. Some tiny dots of houses formed small villages and it seemed incredible that people would choose such a rugged place to live. I took a picture of some bracken, which was growing along the edge – *Pteridium aquilinum* according to our list but looking slightly different to ours.

A short drive took us to a track and we parked on the verge where *Sphaerostephanos unitus* was growing, a common fern here but none-the-less quite attractive. A short way up the track we entered the Sentier (trail) de Découverte in the Forêt de Bon Accueil. We soon learned to identify two endemic tree-ferns: *Cyathea excelsa* and *C. borbonica*. It was overwhelming to go into a forest where all the plants were unfamiliar but we were told that there was nothing harmful. Here we met no mosquitoes and there are no snakes, no ticks and no leeches on the island – bliss!

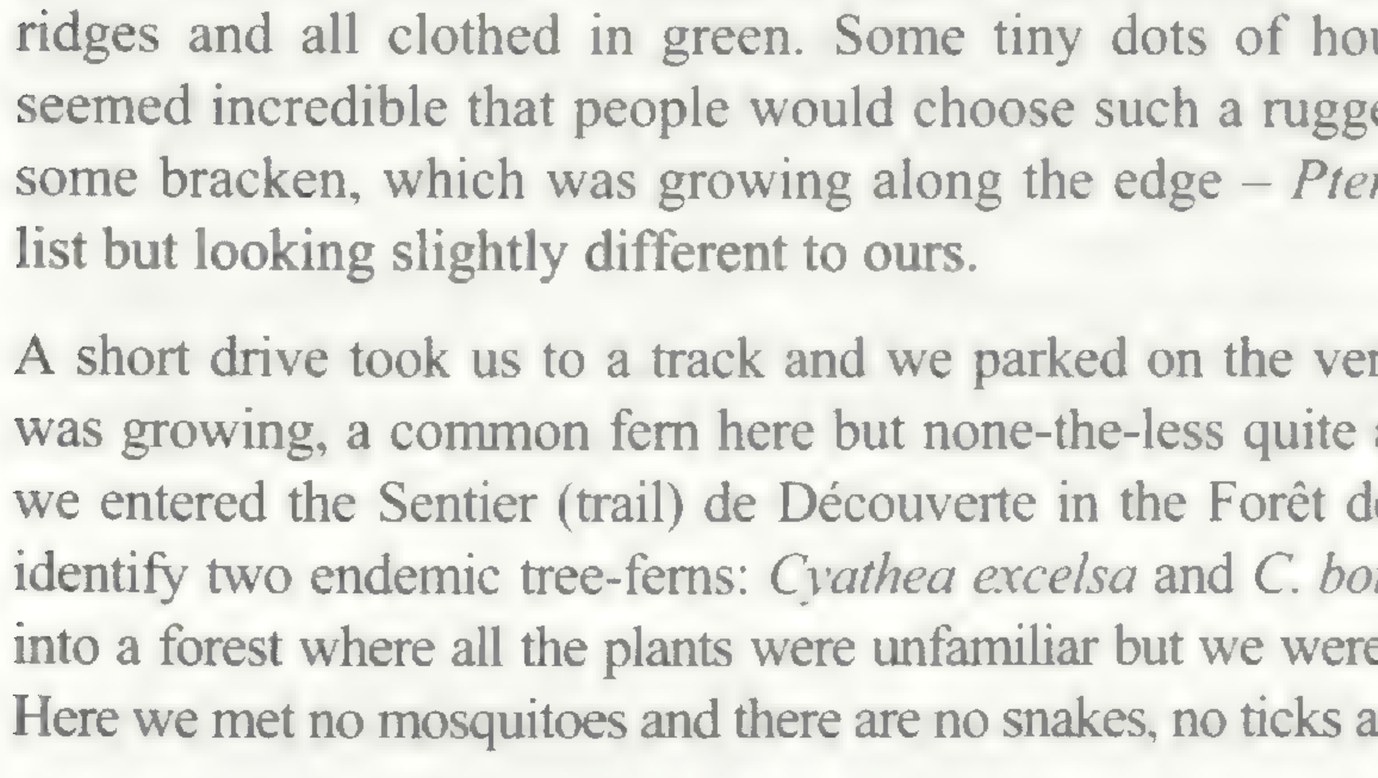


photo: A.H. Ogden

Jennifer Ide with *Marattia fraxinea*, Bon Accueil, La Réunion

Many trees were loaded with epiphytes and a climbing *Blechnum attenuatum* caught our attention, then *Loxogramme lanceolata* and three elaphoglossums! In the past this forest had been invaded by an introduced ginger, a vigorous plant that excluded other plants. This had been cleared on either side of the path, allowing more of the native flora to establish. We saw two species of *Selaginella* and an *Asplenium daucifolium* that had tiny leaflets at the ends of mature fronds reminiscent of *A. bulbiferum*. Further down the path were the giant fronds of *Marattia fraxinea* and huge trees that had been enveloped and destroyed by strangler fig. On some fallen logs by a boulder-strewn watercourse we found

Trichomanes tamarisciforme and *Hymenophyllum hygrometricum* as well as *Lepisorus excavatus* clambering over a tree. Above us were the thick, blunt-ended fronds of the epiphyte *Antrophyum giganteum*, known as 'langue de boeuf' by the locals.

In a small clearing we stopped for lunch by two huge *Pteris*, *P. pseudolonchitis* and *P. nevillei*, while we learned the difference in venation that easily distinguishes them. A small tree-climbing snail with orange eyestalks entertained us by walking like an inchworm rather than the usual slimy glide.

After lunch new ferns came thick and fast. We spotted *Oleandra distenta* climbing a tree while *Psilotum nudum* poked out of a cleft in a strangler fig. Another *Pteris*, *P. scabra* was by a fork in the path and *Monogramma graminea* and *Vittaria ensiformis* had Pat shinning up a tree. There were more hymenophyllums higher in the wood where it was drier and *Belvisia spicata*, *Hymenophyllum inaequale*, *Elaphoglossum richardii*, *E. hybridum* and *Trichomanes cuspidatum* were all noted. *Polystichum ammifolium*, *Ctenitis lanata* and *Asplenium nitens* were also recorded and a frond of *Amauropelta heteroptera* looked remarkably like our *Oreopteris* in the way the pinnae tapered at the base.

photo: A.H. Ogden

Martin Rickard, Graham Ackers, Lesley Williams & Edmond Grangaud, Forêt de Bon Accueil, La Réunion

How can one absorb new species at this rate? I took a lot of pictures and hoped to be able to tie them in with the fern names later. We left the Sentier in good time so that we would not have to drive down the incredibly twisty road in the dark.

It was nice to have dinner at the hotel without all the noise of the previous night's karaoke and the Divali celebrations.

Day 3, 22nd October – Mare Longue and St-Philippe **Graham Ackers**

Our sites took us eastwards from St-Pierre along a relatively quiet coastal road (it was Sunday) to the St-Philippe area, where we explored along one of the 'Sentier Botanique' trails, with interpretation posts providing names and details of the forest trees. The site was reached by turning inland and driving through lush secondary forest dotted with *Phymatosorus scolopendria* and carpeted by countless numbers of *Nephrolepis biserrata*, a successful coloniser of disturbed areas providing a striking component of this beautiful dappled sunlit area. The trail itself was through a primary forest of native trees with long straight trunks reaching skywards to create their distant foliage canopy and thus the shade beloved by ferns. Some of the tree species displayed colourful bark, some boasted buttressed trunks and most harboured epiphytes. The altitude was 200 to 300 metres, the area being classified as Lowland Rainforest (with three to four metres of rain per year!), and is a nature reserve, 'Réserve Naturelle de Mare Longue'.

In the car parking area we noted *Adiantum hispidulum*, the epiphytic ferns *Humata repens* and *Belvisia spicata* (with its strange terminal soral spike), and some large specimens of the foliaceous bud-producing *Diplazium proliferum*. On the trail, the path surface consisted of

lava, and consequently was a little difficult going, but most of the party managed to complete the shortish circular route. As usual, many ferns were seen, but at this early stage in the trip several of us were still experiencing problems with their identification. Some of those I noted were *Asplenium affine*, the climbing ferns *A. daucifolium* var. *lineatum*, *Blechnum attenuatum* and *Lomariopsis pollicina* all displaying frond dimorphism on their epiphytic skyward journeys, *Christella dentata* and *C. hispidula*, difficult to tell apart without viewing a magnified pinna held up to the light, *Ctenitis cirrhosa*, a very common bipinnatifid fern belonging to a difficult genus, and various species of *Elaphoglossum*, *Vittaria* and filmies, at this stage all insufficiently studied to permit reliable naming. Perhaps surprisingly, relatively few tree-ferns (*Cyathea borbonica*) were present.

photo: R.G. Ackers

Yvonne Golding & Frank Katzer, Mare Longue, La Réunion

After lunch, we drove a little further up the forest road, and in its vicinity noted two of La Réunion's most impressive ferns – *Marattia fraxinea* and *Ochropteris pallens*, as well as the stiffly upright *Nephrolepis abrupta*. Exploring the dark woodland nearby was potentially hazardous on account of the barely visible deep holes called 'barils', created when ancient lava flows engulfed and carbonised trees, eventually rotting to leave their leg-trapping obstacles. But with

photo: courtesy A.H. Ogden

***Pandanus* wood, St-Philippe, La Réunion**

Back row: Graham Ackers, Roger Norman, Paul Sharp, Ian Bennallick, Alan Mellor, Alison Evans, Paul Ripley, Martin Rickard, Michael Hayward, Klaus Mehltreter, Frank Katzer, Alan Ogden, Lesley Williams
Front row: John Edgington, Jennifer Ide, Sue Norman, Lizzie Evans, Pat Acock, Bridget Laue, Yvonne Golding

wary eyes peering in several directions simultaneously, fine ferns were again seen, including the pendulous *Ophioglossum pendulum* and the rare *Vittaria scolopendrina*, many more *Marattia fraxinea* and large plants of *Asplenium nidus*, the 'bird's nest' plant of British garden centres.

Later in the afternoon our convoy moved a little further east to visit a coastal recreation area near St-Philippe with impressive scenery of lava cliffs, rough seas, and a large stand of *Pandanus utilis* (probably planted, but nevertheless creating an unusually uniform and atmospheric piece of woodland). The terrestrial *Selaginella salaziana* and *Ctenitis maritima* were recorded here, and also the maritime *Acrostichum aureum*, looking a little bedraggled in its challenging environment.

Our second full day's ferning had proved to be as intellectually stimulating, aesthetically satisfying, and socially enjoyable as the first had been and all others were soon to be. Thank you to Edmond, Paul, Pat and my companions for making it so!

Day 4, 23rd October – Piton de la Fournaise **Alan Mellor**

The day centred on Piton de la Fournaise (Peak of the Furnace), the active volcano on the island. Edmond gave us all a geology lesson to help us understand the incredible views we were seeing. The active part of the volcano has progressively moved east as the tectonic plate has moved over the hotspot that has over the last five million years given rise to La Réunion itself.

At the viewpoint Le Nez de Boeuf, at an altitude of 2,136 metres, we looked down on La Rivière des Remparts from what had been the edge of the caldera 290,000 years ago and across at the caldera's edge of 100,000 years ago. The flat bottom of this very steep-sided valley about 1,000 metres below us had been caused by lava flows 'only' 2,000 years ago and we saw the source at our next stop. Le Cratère Commerson is an explosion crater just 200 metres in diameter and about 150 metres deep.

By now we were above the clouds on the Plaines des Remparts where the vegetation is described as high altitude and Ericoid. Essentially three indigenous plants dominate and in particular the gold *Erica reunionensis* and the silver *Stoebe passerinoides*. The landscape has a dry Mediterranean appearance and the annual four to five metres of rain drains quickly through the porous volcanic debris and fissures. Despite the generally unpromising landscape and the brevity of these first two stops some terrestrial ferns were found. In the banks by the roadside at Le Nez these included *Asplenium aethiopicum*, *A. adiantum-nigrum*, *Ctenitis cyclochlamys* and *Cyathea cooperi*, which Edmond pulled out with disgust, this being an invasive alien. In crevices by the crater at stop 2 were *Elaphoglossum acrostichoides* and *Polystichum ammifolium*.

On the caldera's edge of 40-60,000 years ago we looked down on the moonscape of the Plaines des Sables with the road going very straight across to 'Le Volcan' as it is referred to locally. Six species were noted here including *Asplenium kassneri*, *Elaphoglossum hybridum* and *Blechnum tabulare*. At Pas de Bellecombe on the edge of the volcano itself we all looked down two hundred metres to the bottom of the current crater and the four kilometres or so across at the peak of 2,632 metres and centre of activity at Cratère Dolomieu.

The party then split, twelve of us going to the volcano itself and the remainder mostly having a more typically 'ferny' day.

For the 'tourists' the walk down the steep steps to the crater floor was easy enough but it bothered those who were already thinking of the climb back! The walking was relatively difficult with a constant need to watch one's footing; we heard later that another walker had been helicoptered out with a broken ankle. We faced a long steep pull up to the peak. But it was worth it. We had excellent weather conditions in which to see the crater spattering out the blood-red lava and a couple of times we saw bubbling lava spreading across the crater floor. A good place for our picnic with the constant rumbling sound from within the fumarole itself!

Then we had a long two and a half hour walk back with some muttering that Paul and Pat had been slightly disingenuous with their description of the walk!

Much of the crater was barren of plants apart from the base of the caldera wall, which was quite wet and for the first few hundred metres of the crater wall where plants survived in the crevices. *Histiopteris incisa*, *Asplenium adiantum-nigrum* and *Polystichum ammifolium* were noted. The main find was Lizzie's who noted what Edmond later told us was *Asplenium stoloniferum* in the caldera wall adjacent to the steps.

The other group also had an excellent day, but again with a long and quite strenuous walk along the Sentier du Fond de la Rivière de l'Est. From the Gite de Volcan just below the caldera's outer edge they walked for two hours on a dry, less ferny track with a 200-metre descent to 2,050 metres just to get to their lunch stop! In the afternoon, which included a further descent to 1,880 metres, they were in forest and saw 15 or so species that were new to them, including abundant *Cyathea glauca* with many very young plants. In shady ravines were *Ctenopteris parvula* and the golden brown *Elaphoglossum splendens* together with the filmy ferns *Trichomanes borbonicum* and *Hymenophyllum inaequale*. On trees, *Pleopeltis macrocarpa*, *Lepisorus excavatus*, *Elaphoglossum aubertii*, *Vittaria isoetifolia* and *Huperzia ophioglossoides* were seen and, included amongst the various spleenworts, *A. boltonii* was identified. Fern of the day was no doubt *Asplenium theciferum*, which grew epiphytically on horizontal branches. Its waxy blue-green fronds and sori near the pinna tips made for a very different *Asplenium* and a few strongly growing ones had a two to three-inch trunk. The damp woodland yielded *Dryopteris antarctica*, *D. bernieri*, *Nothoperanema squamisetum*, *Histiopteris incisa* (batwing fern) and others. During the long zigzag 370-metre climb back up the hill the group must have been delighted to find *Pteridium aquilinum*!

Three of the party necessarily had a less strenuous day because of aches, pains or an attack of common sense but all could not help but enjoy the very fulfilling day.

Day 5, 24th October – Grand Étang **Jennifer Ide**

The day was bright and sunny in St-Pierre but we were warned of rain to come. As we passed over la Grande Montée, to the east of the Plaine des Cafres, the clouds began to threaten and fulfilled their promise. On the approach road to Grand Étang we stopped by a large *Eucalyptus robusta* to admire and take pictures of a large *Ophioglossum palmatum* hanging down from the first main fork of the tree.

The Grand Étang, literally 'big pond', is a large lake at 500 metres altitude formed as the result of volcanic activity several thousand years ago. A lava dam formed at the eastern end of the valley sealing it off, trapping the waters flowing from the waterfalls at the western end to form the lake. A combination of low altitude, heavy rainfall (4,000 to 6,000 millimetres per year) and relatively mild temperatures (15°C winter mean; 20°C summer mean) enables a large range of pteridophyte species to grow in the valley.

From the picnic site in the Forêt Départementale du Cratère a footpath led up the lava dam to the lake, passing through secondary forest-cum-scrub with many introduced woody and herbaceous exotics, such as species of *Eucalyptus*, *Carex* and *Ageratum*. *Persicaria capitatum* was particularly invasive and frequently seen along roadsides in many part of the island. Banks of degrading lava, varying in height, bounded the path and were the habitat of most of the ferns recorded including *Pteris scabra*, the large filmy fern *Trichomanes tamarisciforme* and the often-epiphytic *Antrophyum giganteum*. At the foot of the banks the first of much *Deparia petersenii* was recorded, also *Sphaerostephanos unitus*, *Marattia fraxinea*, the finely divided tripinnate fronds of *Ochropteris pallens*, the large erect *Selaginella distachya*, *Amauropelta heteroptera* and *A. strigosa* and large stands of juvenile *Blechnum attenuatum*. Three epiphytes worthy of note seen on a *Eucalyptus robusta* were *Ctenopteris argyrata*, *Elaphoglossum heterolepis* and *Nephrolepis biserrata*, unusual as an epiphyte.

As the path reached the top of the dam, the lake spread before us surrounded by a wide lawn, predominantly of *Cyclosorus interruptus*. The introduced yellow-flowered *Raphanus raphanistrum*, *Colocasia esculenta*, a raspberry and other exotics in the valley bore testimony to early failed attempts at cultivation. The path around the lake continued to ascend, but more gently. It soon become evident that *Deparia petersenii* was one of the most common ferns in the valley. Edmond explained that 30 years ago there were just two or three sites known in La Réunion for this fern, all at Grand Étang. Considered a native, today the fern is known all over the island at both coastal and inland sites. What might have triggered this change to an apparent invasive habit was an intriguing topic for speculation. *D. petersenii* was one of three species of similar appearance proving confusing for many, so its close proximity with *Christella dentata* and *Sphaerostephanos elatus* provided an opportunity to revise their distinctive field characters. Hanging down the bank at the side of the path, *Ochropteris pallens* in excellent condition revealed the full beauty of its finely divided fronds. A colony of *Adiantum raddianum* decorated the base of a tree.

With so many different terrestrial ferns, if one was not careful interesting epiphytic species could be missed. Two such plants were *Huperzia squarrosa* and *H. gnidioides* growing together high in the branches of a tree. Other epiphytes of note were the attractive *Asplenium affine*, with its distinctive large, round, acroscopic basal lobe, a single clump of *Psilotum nudum*, and *Arthropteris orientalis*, with distinctive calcareous crystals marking the near-marginal hydathodes.

After crossing a dry riverbed of large water-worn boulders at the western end of the lake, the path passed through open, primary forest. Epiphytic hymenophyllums were very evident among the lichens and mosses on the trees. The forest hosted large specimens of *Pteris nevillei* with fronds about two metres long, and *Equisetum ramosissimum*, La Réunion's only horsetail. *Cyathea borbonica*, though not common, was more frequent here than elsewhere in the valley. A rough path through this open forest led to a steep set of steps cut in the mountain side, made most attractive by the bright green, young fronds of *Deparia petersenii* growing in the cracks of the steps and at the side, the hanging fronds of *Ochropteris pallens*. We had reached the end of the valley and a cove with high cliffs. Into a large pool fell triple waterfalls from the top of the cove, each approximately 500 metres high, the Cascades du Bras d'Annette. We enjoyed our lunch at this beautiful spot, sprayed by the waterfalls. The Mauritian mountain toads that we had encountered as we walked around the lake were still with us. Ferns continued to be prolific: *Ctenitis borbonica*, *Deparia boryana*, *Sphaerostephanos elatus* together with *S. arbuscula* with its small trunk, were abundant around the waterfall area. Four ferns rare on the trip were found here: *Asplenium unilaterale*, *Diplazium proliferum* and the delightful, small *Elaphoglossum spathulatum*, which was the 'fern of the day' for many, with the thin, erect fronds of *E. aubertii*, found in the forest before the waterfall, coming a close second.

photo: Y.C. Golding

Edmond Grangaud,
Plaine des Palmistes, La Réunion

Refreshed, our enthusiasm returned and some people took the opportunity to study more thoroughly the epiphytes of the open forest as we started the four-kilometre walk back through the valley. Now able to relax our attention somewhat from ferns, we could enjoy

fully the scenery of the Grand Étang and, in particular, delight in the birds and their singing. We made our way back to the car park and part of the group made a short journey to a rather special site on the Plaine des Palmistes, an extremely boggy area where *Osmunda regalis* grew in company with *Dicranopteris linearis*, *Sticherus flagellaris*, *Lycopodiella cernua* and a dwarf *Pandanus* – a very strange collection of plants to find in a marsh.

Day 6, 25th October – Cirque de Cilaos **Roger & Sue Norman**

We set off at the usual hour in clear conditions to Cilaos. We stopped before the road really started the ascent to photograph Piton de Neige, which marks the north-east edge of the crater. Here was found *Pityrogramma calomelanos* var. *aureoflava*, well named for its brilliant reverse. The road continued upwards in a most spectacular fashion, with more hairpin bends than most people meet in a lifetime, tunnels, a bridge to go under and then over, very narrow in parts, some parts new but all well engineered and maintained. Eventually at the top we were rewarded with a cup of coffee.

photo: Y.C. Golding

***Doryopteris pedatoides*, Cilaos, La Réunion**

Cilaos sits on a volcanic mound at 1,200 metres in a crater about ten kilometres in diameter surrounded by sharp top ridges to 3,000 metres, with a water-worn passage to the south. On our first day we had looked across the crater to Cilaos from Makes Forest at 1,800 metres in the north-west. To the north-east was Piton de Neige, 3,071 metres, a set of peaks visible from many places.

We set off along the 'level' path, Le Sentier des Porteurs, falling overall 300 metres to the Cascade de Bras Rouge via steps, rocks and rough patches plus some uphill sections. The area was drier than those of previous walks and somewhat more open. There were more than enough ferns to keep us occupied. Our highlights included *Adiantum hispidulum*, *A. reniforme* var. *asarifolium* and *A. thalictroides*, *Asplenium adiantum-nigrum*, *A. aethiopicum* and a wonderful *A. daucifolium* var. *viviparum*, a couple of christellas, *C. dentata* and *C. hispidula*, *Dryopteris antarctica*, *D. pentheri* and *Pellaea viridis*.

Lunch was enjoyed at the cascade, which had some good pools. The walk back was not as arduous as some had feared and we were rewarded at the top with a cup of tea under a tree with the best fern of the day, a huge cultivated stag's horn (*Platycerium*), before the drive back to the hotel, where Lesley's birthday was celebrated with a cake.

The day was not improved by one of our number being mugged not far from the hotel. John Edgington had the good sense not to resist or carry much money and escaped with some abrasions and bruised dignity.

photo: A.H. Ogden

***Lepisorus excavatus*, Forêt de Bébour, La Réunion**

Day 7, 26th October – Forêt de Bébour and Forêt de Bélouve **John Edgington**

Today we paid the first of two visits to this rainforest, 5,000 hectares of rich vegetation on the eroded floor of a cirque. Scene of massive lava flows 20,000 years ago, it is one of the best-preserved natural habitats on La Réunion. Stopping to admire *Ophioglossum pendulum* on a wayside tree, we drove along a well-maintained forest road through a stand of the timber tree *Cryptomeria japonica* (whose planting is now being phased out) to our morning walk along the Sentier de la Rivière. With the three native tree-ferns *Cyathea borbonica*, *C. excelsa* and *C. glauca* around him, Edmond summarised the ecology of the island, explaining that here, at 1,300 metres, we were in the 'meso-therme' climatic zone, with an annual rainfall of around five metres. Fearing that much of this was about to descend in the next hour, we donned wet-weather gear, glanced briefly at *Huperzia verticillata* by the roadside and set off down the path to the river.

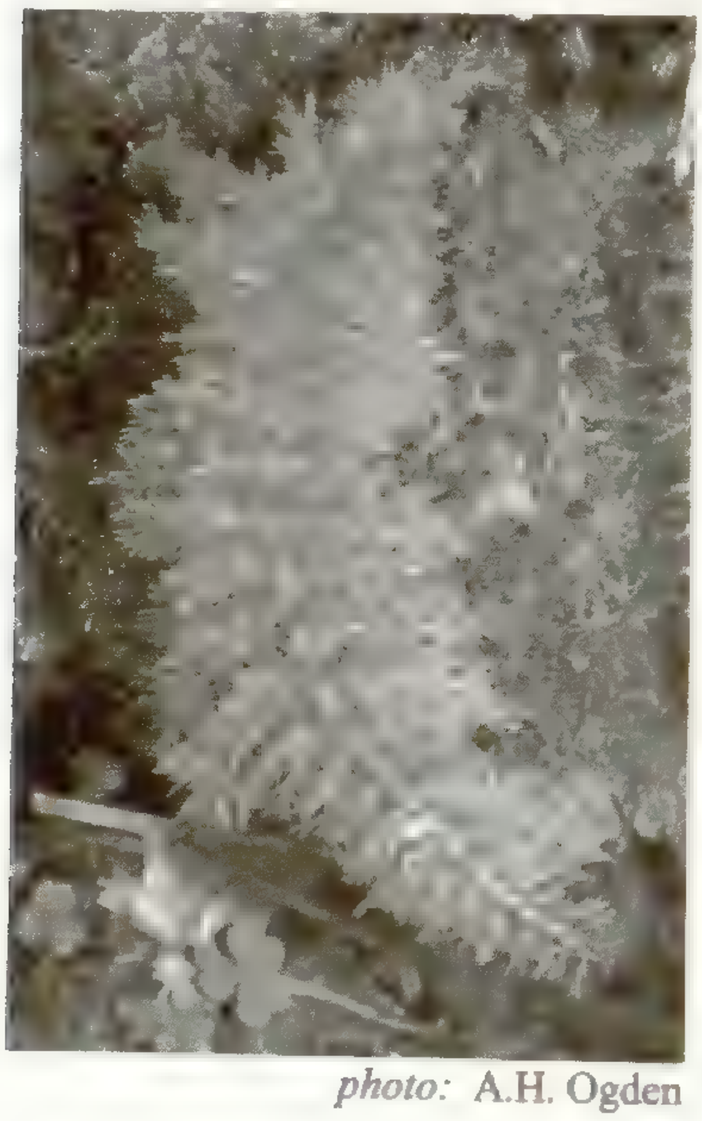


photo: A.H. Ogden

***Trichomanes meifolium*, Forêt de Bébour, La Réunion**

At 800 metres this was one of our shorter walks, yet one of the richest. Within thickets of the native tamarind, *Acacia heterophylla* and the heath *Erica reunionensis* grew many familiar ferns – *Asplenium boltonii*, *Blotiella pubescens*, *Ctenopteris argyrata* and many that were not, such as the attractive *Athyrium scandicinum*. Amongst the filmies, *Trichomanes meifolium* and the curious *T. digitatum*, recently reclassified as a *Hymenophyllum* despite its sporangia borne on a bristle, stood out, while *Dryopteris aquilinoides* and that most un-fernlike plant, *Oleandra distenta*, were frequent. The abundance of epiphytes was astonishing, covering the trees in a shaggy green coat. With Edmond to guide us, broad-lobed *Ctenopteris leucosora* could be compared with narrow-lobed *C. torulosa*, the hairs on *Grammitis obtusa* (appressed, dark) with those of *G. cryptophlebia* (erect, white) and *Huperzia gnidioides*' gradual transition from sterile to fertile contrasted with the abrupt narrowing of *H. ophioglossoides*.

The weather relented and after lunch in the sunshine overlooking Plateau de Bélouve we took another short walk among less humid vegetation. Though by now we could recognise *Vittaria isoetifolia* and *Elaphoglossum hybridum* at sight, the distinction between *Antrophyum boryanum* and *A. giganteum* was as usual less clear. Highlights were *Grammitis barbatula*, larger and hairier than the morning's species, and *Trichomanes inopinatum*, distinguished (with difficulty!) from *T. borbonicum* by its blacker rhizome hairs. Edmond's discovery of a large *Ctenitis*, possibly *C. lanuginosa*, unseen for decades, brought a frisson of excitement. Although by the next morning he had determined it instead as the rare endemic *C. canacae*, it was nevertheless a significant find and a fitting end to a splendid day.

photo: A.H. Ogden

***Cyathea glauca* & *C. excelsa*, Forêt de Bébour, La Réunion**

Day 8, 27th October – Vallée Heureuse **Yvonne Golding & Frank Katzer**

After the usual early start our fern spotting began in St-Pierre, where Edmond showed us some dried-up specimens of the dichotomous fern *Actiniopteris australis* growing on a wall. Quite what the locals made of a gaggle of middle-aged pteridologists peering at the base of a wall in a back street of St-Pierre at 7.45 in the morning can be left to the imagination. Also present on the wall was the ubiquitous *Pteris vittata.*

We then proceeded along the coast eastwards before heading inland, driving up through a *Cryptomeria japonica* plantation. This was planted in about 1960 and now had some pretty sizeable specimens; as plantations go they are really quite attractive trees, which do not cast such deep shade as Sitka spruce and very often we saw tree-ferns growing as under storey in these plantations. At the end of the track we began our ferny walk at an altitude of 805 metres along the Vallée Heureuse, heading for the Source Repiquet. The walk followed the pipeline that brought the spring water down from the source, so in theory there was no chance that any of us could get lost! Such was the huge range of ferns (60 species) seen along the way that progress was slow and some of us did manage to lose the path by blindly following others. The site was especially rich in filmy ferns and with Edmond's help, seven species of *Hymenophyllum* and six species of *Trichomanes* were identified. Only three of us came anywhere near our intended destination, and near the source saw cliff-sides covered in *Adiantum capillus-veneris.* Also of particular note were magnificent sub-arborescent specimens of *Blechnum tabulare*, some of which reached two metres in height, while another was spotted growing on top of an old tree-fern stem making it appear even more majestic. Those of us interested in other plants also saw quite a few species of orchid, including a terrestrial one with green flowers that we had not seen before.

photo: A.H. Ogden

Vallée Heureuse, La Réunion
Martin Rickard, Alan Mellor,
Lesley Williams

Day 9, 28th October

On this day the group split in two, one group relentlessly ferning to the end, the other group choosing to sightsee and visit the Botanic Gardens.

Forêt de Bébour **Ian Bennallick**

Ten of the group drove with Edmond to the Forêt de Bébour (approx 1,400 metres) for another walk in some of the most attractive of all the vegetation types we saw on the trip. Native trees and plants dominated the slopes, with the low canopy punctuated by the tree-ferns *Cyathea excelsa*, *C. borbonica* and the wonderful *C. glauca*. Almost every tree branch was dripping with epiphytes, including several ferns and orchids. Not surprisingly, the conditions supporting this lush vegetation are frequent mist and rain; La Réunion holds several of the world's greatest rainfall records over various periods. As we started the circular walk, a 'sentier botanique', around the low hill of 'Piton de Bébour ou Piton Rond', we all donned waterproofs for the incessant warm rain. Joining us on the first part of the walk with her assistant was Mme Tambay, a journalist who filmed us looking at the ferns for a Mascarene nature programme. Hopefully a higher profile of ferns and other plants will encourage local people to help towards the conservation of the unique vegetation of the island.

We were rewarded on the first part of the walk by finding some *Belvisia spicata* with well developed fertile parts, *Huperzia ophioglossoides*, *Loxogramme lanceolata* and *Ctenopteris*

argyrata on branches, and a very attractive *Athyrium scandicinum* – with a frond pattern reminiscent of our own *Asplenium obovatum* subsp. *lanceolatum* – beside the path. A few *Histiopteris incisa* (blue fern), much *Blotiella pubescens* and *Asplenium daucifolium* var. *lineatum* and *Blechnum attenuatum* grew in the woodland edge. Branches were covered with mosses and several species of filmy-fern: *Hymenophyllum capillare*, *H. digitatum*, *H. hygrometricum*, *H. inaequale* and *Trichomanes tamarisciforme* were all common and in places abundant, while the exquisitely delicate *T. meifolium* grew on the ground around the bases of trees. *Rumohra adiantiformis* and *Oleandra distenta* could be seen on higher branches, with several *Elaphoglossum* species including *E. richardii*, *E. hybridum* and *E. splendens*, and *Antrophyum boryanum* with its larger fronds. A small patch of *Ctenopteris torulosa* was found on a branch, and some *Vittaria isoetifolia* seen later on, its narrow thin fronds hanging for several inches off another branch. *Asplenium boltonii* grew alongside *A. daucifolium*, giving the opportunity to compare the two.

The most interesting aspect of the walk was the presence of tree-fern 'buds', which had evidently fallen off the large tree-ferns and rooted in the damp ground. Edmond had told Martin that this is a way the tree-ferns colonise, and it certainly appeared to be true – maybe a way that they can survive being blown over in the high winds of occasional tropical cyclones. At least one tree-fern was estimated at about 60 feet high, one of the tallest ever seen by the group. The fibrous trunks had also been used in making steps in the path. It was also noted that a pattern of fern growth appeared to be regular: the central parts of the tree-fern trunk would have one or more rings of *Blechnum attenuatum* encircling the trunk with various filmy-ferns on the lower shaded sections, the crown of tree-fern fronds growing high above the surrounding trees and shrubs. A fascinating study into fern associations of the woodland seems to be needed!

Returning to the cars, some *Lycopodiella cernua*, *Blechnum tabulare* and *B. marginatum* were seen and the fractal-like branched *Sticherus flagellaris* were found beside the road.

Sightseeing and Botanic Gardens **Bridget Laue**

In the morning, Marie-Françoise Grangaud showed us the St-Pierre street market, which sold local fruits and vegetables, including vanilla pods, and craft items made by local artisans from wood and volcanic rock.

In the afternoon, nine of us visited the Conservatoire Botanique de Mascarin, which was established in 1986 with the aim of preserving La Réunion's native and endemic plant species. This seven-hectare site is centred on the 19th-century mansion house of the Marquis Antoine Sosthene d'Armand de Chateauvieux, at Les Colimacons, near St-Leu. Located on the drier west side of the island, at about 500 metres above sea level, the gardens look out over the ocean two kilometres away. Pteridologists soon found the shade house, containing luxuriant specimens of a limited number of ferns including *Nephrolepis biserrata*, *N. exaltata*, *Diplazium proliferum* and *Phlebodium aureum*, together with *Adiantum capillus-veneris* growing in the walls.

The local aspects of the garden collections included semi-arid coastal forest species typical of pre-settlement times, as well as a display of plants that have had an historical impact on the island – such as sugar cane, bananas, a native coffee species, and pelargoniums used for the production of perfumes. The most impressive collections were of palm trees (some quite enormous) and especially of succulents from both the old and new worlds. Growing apparently wild among the garden exhibits were more ferns, including *Cyrtomium falcatum*, *Pteris scabra*, *P. vittata*, *Christella dentata*, *Platycerium alcicorne* and *Pteridium aquilinum*!

Day 10, 29th October – South-east Corner **Alison & Lizzie Evans**

With all our luggage loaded into the van and cars we set off to the airport via the east coast of the island. Our first stop was at Langevin, a black rocky headland with crashing waves –

a tourist spot but we did find *Pellaea viridis*, *Phymatosorus scolopendria*, and *Nephrolepis biserrata*. The initial bright sunshine gave way to mist and then rain as we turned north beyond St-Philippe, and shortly after we stopped for coffee at a small café with outdoor tables under a lean-to, with platyceriums and vanilla growing alongside. Moving on we came to a recent lava flow, composed of cinder-type lava that was being colonised mainly by *Nephrolepis abrupta*, with a few plants of *Pityrogramma calomelanos* var. *aureoflava* and one of var. *calomelanos*. There were several 'crispy' forms of the *Nephrolepis*, some on the lava and some that seemed to be forms of *N. biserrata* growing on the edge of the lava flow. There were a few larger ferns in the vegetation around the lava field, namely *Sphaerostephanos elatus* and *S. unitus*, bracken, and *Dicranopteris linearis*. Martin found a single plant of *Humata repens* growing on a tree by the side of the lava field, and also a *Cyathea cooperi*.

Our next stop was by another recent lava flow, this time of smooth or 'Pahoehoe'-type lava. In addition to the *Nephrolepis*, there were many plants of *Pityrogramma calomelanos* var. *aureoflava* and var. *calomelanos* colonising the lava, with a few plants of *Pteris vittata*. There were several food stalls in the lay-by next to the lava flow, selling local produce as well as baguettes and chips, so we had plenty of choice for lunch.

The weather improved as we drove further north to Anse des Cascades, just south of Piton Ste-Rose. This was obviously a popular local picnic spot. The guide-book describes a waterfall and a fishing port, but most of us only got part-way down the hill, looking at extensive colonies of *Pyrrosia lanceolata* on the trees. In a dry stream-bed we also found *Diplazium proliferum*, *Christella hispidula*, *Ctenitis cirrhosa*, *Pseudophegopteris cruciata*, and *Macrothelypteris torresiana*. Moving on again, we drove past Notre Dame des Laves, where in 1977 a torrent of lava apparently divided, going either side of the church and leaving the building unharmed.

Our last stop was in Ste-Anne, where there is a highly decorated odd-looking church. The church walls did have *Phymatosorus*, *Nephrolepis*, and *Psilotum nudum* growing on them however, with *Pyrrosia* on the surrounding trees, and a rather fine *Davallia* (probably *D. denticulata*) in a garden at the back. We all agreed that the combined day of sightseeing and ferns was a good way to round off a very successful and enjoyable trip.

Conclusion **Pat Acock**

We were extremely fortunate in the group that came to La Réunion. We all got along together well and apart from John Edgington's unfortunate incident we returned unscathed. We featured in the island's daily newspaper and are to feature on TV. We were so fortunate to have had the help of Edmond and Marie-Françoise Grangaud, for whose support the BPS owes a deep debt of gratitude.

We had to rise early each day and the drives could be a little arduous around so many bends, especially for the drivers, but the places we visited were so well selected by Edmond that it was always worthwhile. Having Klaus Mehltreter from Mexico with us was a great boost. His shrewd and analytical perceptions on the world of ferns allowed for informed discussions on the world of pteridology and always helped when we were descending into the realms of speculation. The evening meal times together were a great way to relax, reinforce and unwind at the end of the day

We do hope one or two more people from outside the UK reading this will be inspired to join us on our international expeditions. It is a great way to increase our knowledge of these magnificent ferns and as Jennifer is wont to say of the fern fraternity, "It must contain some of the nicest people in the world."

As with New Zealand and Trinidad, we seemed to have seen about half the known ferns during our short stay. To see more one would have to spend a lot more time and be willing to walk much further in more difficult terrain. I still have not seen *Asplenium cordatum* in the wild but I intend to go back and see it very soon.

Ferns seen during La Réunion excursion, October 2006

KEY TO SITES

1. (Day 2) Forêt de Bon Accueil – Sentier de Découverte (nr. Les Makes)
2. (Day 3) Réserve Naturelle de Mare Longue (Forêt)
3. (Day 3) St-Philippe
4. (Day 4) La Fournaise:
   - 4a. Le Nez de Boeuf viewpoint
   - 4b. Le Cratère Commerson
   - 4c. Rempart de Bellecombe & Cratère du Piton de la Fournaise
   - 4d. Sentier du Fond de la Rivière de l'Est
5. (Day 5) Grand Étang
6. (Day 6) Sentier de la Cascade de Bras Rouge, Cilaos
7. (Day 7) Forêt de Bébour: southern part of Le Sentier de la Rivière
8. (Day 7) Forêt de Bélouve
9. (Day 8) Forêt de la Vallée Heureuse
10. (Day 9) Le Tour du Piton Bébour
11. (Day 10) Cinder lava
12. (Day 10) Pahoehoe lava
13. (Day 10) Anse des Cascades

Site	1	2	3	4a	4b	4c	4d	5	6	7	8	9	10	11	12	13
Acrostichum aureum			+													
Adiantum capillus-veneris									+			+				
A. hispidulum	+								+							
A. raddianum								+			+					
A. renifome var. asarifolium									+							
A. thalictroides									+							
Amauropelta bergiana var. bergiana	+						+	+		+	+					
A. heteroptera	+							+		+			+			
A. strigosa								+		+			+			
Antrophyum boryanun	+						+			+	+	+	+			
A. giganteum	+							+			+	+				
A. immersum		+														
Arthropteris orientalis var. orientalis									+							
var. subbiaurita		+						+								
Asplenium adiantum-nigrum				+		+			+							
A. aethiopicum				+			+		+	+						
A. affine	+	+					+	+			+	+	+			
A. boltonii	?						+			+	+		+			
A. daucifolium var. lineatum	+	+						+		+	+	+	+			
var. viviparum	+								+							
A. kassneri					+		+									
A. nidus		+	+													
A. nitens	+						+			+	+		+			
A. pellucidum subsp. pellucidum		+														
A. stoloniferum						+										
A. theciferum var. concinnum							+									
A. unilaterale	+							+				+				
Athyrium scandicinum										+	+		+			
Belvisia spicata	+	+						+					+			
Blechnum attenuatum	+	+					+	+		+	+	+	+			
B. australe							+		+							
B. marginatum										+			+			
B. tabulare		+			+	+	+			+		+	+			
Blotiella glabra							+			+						
B. pubescens								+		+		+	+			
Cheiroglossa malgassica								+								
Christella dentata	+	+						+	+			+			+	+
C. hispidula	+	+							+							+
Ctenitis borbonica								+								
C. canacae											+					
C. cirrhosa	+	+						+								+

Site	1	2	3	4a	4b	4c	4d	5	6	7	8	9	10	11	12	13
C. cyclochlamys	+			+			+				+	+	+			
C. humida							+									
C. lanata	+	+									+	+	+			
C. maritima			+													
Ctenopteris argyrata								+		+	+	+	+			
C. leucosora										+	+	+				
C. parvula							+					+				
C. torulosa										+		+	+			
Cyathea borbonica	+	+						+		+		+	+			
C. cooperi				+				+		+				+		
C. excelsa	+							+		+		+	+			
C. glauca							+			+	+	+	+			
Cyclosorus interruptus								+								
Deparia boryana	+							+				+				
D. petersenii								+								
Dicranopteris linearis														+	+	
Diplazium arborescens	+							+				+				
D. proliferum		+						+								+
Doryopteris pedatoides									+							
Dryopteris antarctica							+		+							
D. aquilinoides										+	+		+			
D. bernieri							+		+							
D. pentheri									+							
Elaphoglossum acrostichoides					+		+	+		+						
E. angulatum							+			+						
E. aubertii							+	+		+	+	+	+			
E. heterolepis	+	+						+				+				
E. hybridum	+				+	+	+			+	+	+	+			
E. lancifolium		+							+							
E. lepervanchii										+			+			
E. macropodium	+	+						+		+	+	+				
E. richardii	+							+		+		+	+			
E. spathulatum								+								
E. splendens							+			+	+	+	+			
E. stipitatum						+										
Equisetum ramosissimum								+	+							
Grammitis barbatula											+					
G. cryptophlebia										+			+			
G. obtusa		+					+	+		+		+				
Histiopteris incisa						+	+			+			+			
Humata repens		+												+		
Huperzia gnidioides								+		+		+				
H. ophioglossoides							+			+	+		+			
H. squarrosa		+						+				+				
H. verticillata										+	+	+	+			
Hymenophyllum capillare										+	+	+	+			
H. digitatum (Trichomanes)										+		+	+			
H. hirsutum		+										+				
H. hygrometricum	+							+		+		+	+			
H. inaequale	+	+					+			+	+	+	+			
H. sibthorpioides		+										+				
H. tenellum		+						+				+	+			
Hypolepis goetzii						+										
Lepisorus excavatus (Pleopeltis)	?						+	+			+	+	+			
Lomariopsis pollicina	+	+										+				
Loxogramme lanceolata	+							+	+	+	+	+	+			

Site	1	2	3	4a	4b	4c	4d	5	6	7	8	9	10	11	12	13
Lycopodiella cernua								+		+		+	+			
Macrothelypteris torresiana																+
Marattia fraxinea var. fraxinea	+	+						+				+				
Microsorum punctatum		+														
Monogramma graminea	+	+										+				
Nephrolepis abrupta		+												+	+	
N. biserrata		+						+						+	+	
N. tuberosa									+			+				
Nothoperanema squamisetum							+			+	+					
Ochropteris pallens		+						+				+				
Oleandra distenta	+	+								+	+	+	+			
Ophioglossum palmatum								+								
O. pendulum		+						+								
Pellaea dura									+							
P. viridis									+			+				
Phymatosorus scolopendria		+						+	+						+	+
Pityrogramma calomelanos var. aureoflava									+					+	+	
var. calomelanos														+	+	
Pleopeltis macrocarpa							+			+			+			
Polystichum ammifolium	+				+	+	+	+	+	+	+	+	+			
Pseudophegopteris cruciata												+	+			+
Psilotum nudum	+	+						+	+			+				
Pteridium aquilinum subsp. aquilinum	+						+		+					+	+	
Pteris cretica									+							
P. nevillei	+							+				+				
P. pseudolonchitis	+															
P. scabra	+	+						+			+	+	+			
P. vittata									+						+	
P. woodwardioides												+				
Pyrrosia lanceolata																+
Rumohra adiantiformis								+		+	+	+	+			
Selaginella cataphracta											+					
S. distachya (S. falcata)	+							+				+				+
S. membranacea											+					
S. obtusa									?							
S. salaziana			+													
S. sinuosa	+	+														
Sphaerostephanos arbuscula								+								
S. elatus subsp. elatus								+	+					+		
S. unitus	+	+						+	+					+	+	+
Sphenomeris chinensis												+				
Sticherus flagellaris							+	+		+			+			
Trichomanes bipunctatum		+														
T. borbonicum							+	+		+		+	+			
T. cuspidatum	+	+						+				+				
T. giganteum		+						+				+				
T. inopinatum											+	+				
T. meifolium										+		+	+			
T. tamarisciforme	+							+		+		+	+			
Vittaria ensiformis	+	+														
V. isoetifolia							+			+	+		+			
V. scolopendrina		+														
V. zosterifolia		+														

NOTE: Additionally, *Actiniopteris australis* was recorded in Terre-Sainte, a suburb of St-Pierre, and *Osmunda regalis* on the Plaine des Palmistes.

LECTURE MEETINGS AND DAY VISITS

AGM AND SPRING INDOOR MEETING, CAMBRIDGE – 25 March

Mike Porter

Once again the Society met for its AGM and Spring Indoor Meeting at the established and popular venue of the Cambridge University Botanic Garden. The day was appropriately bright and spring-like as members gathered to greet friends and acquaintances, to enjoy the refreshments provided and to have a quick preview of the attractions on offer. By the time the meeting was due to start more than 50 members were present and the room was the usual hubbub of ferny talk, discussion of travel problems, some members having travelled considerable distances that morning, and the outlining of plans for future visits to fern-rich sites. Promptly at 11.00 a.m. Barrie Stevenson called the assembly to order and on behalf of the East Anglia group welcomed members to what was to be an extremely full but well organised programme.

The rest of the morning was taken up with illustrated talks, demonstrating members' enthusiasm for various fern-rich parts of the world, ranging from north-east America to the coast of China and from the Atlantic Ocean to the Caribbean.

Andrew Leonard began proceedings with a talk on the Canaries, Spanish islands off the coast of Africa, which have an extremely rich fern flora. Andrew set the scene for his talk with a geographical outline of the seven main islands and supported his pictures of ferns with fine landscape views. Among the rich array of ferns pictured, particularly intriguing were *Adiantum reniforme* with its most unfern-like fronds and *Davallia canariensis* and *Diplazium caudatum*, all ferns of the laurel forests, and the endemic, glossy green *Polypodium macaronesicum*. Another impressive plant was the globally threatened tree-fern *Culcita macrocarpa*. However, it was also good to see some of our own rare ferns including *Cystopteris diaphana* and *Ophioglossum lusitanicum*. Some of the sites visited by Andrew were distinctly 'scary' and his feelings of vertigo seemed, to me at least, totally understandable.

From the Atlantic Ocean we moved smartly across to the eastern Caribbean to look at the Ferns of St Lucia with Tim Pyner. This tropical island is noted for its rainforests, which contain, amongst many other ferns, quantities of the widespread *Cyathea arborea*, the less common *C. aspera* and a range of adiantums including *A. villosum*, *A. latifolium* and *A. obliquum*, often growing closely together and needing careful separation. Here too was *Selaginella flabellata*, the 'fan spikemoss'. Tim also showed us pictures of some of the many epiphytic ferns that grow here including the tiny 'tree snailfern' *Cochlidium seminudum*, and *Trichomanes punctatum* with its circular fronds. The tour of this fern paradise concluded with a visit to what is claimed to be 'the world's only drive-in volcano' with its sulphur springs and *Blechnum serrulatum*.

Our next move was north to the north-eastern USA, with Alan Ogden giving us a taste of the delights enjoyed by those who participated in the BPS visit to this area in June and July 2005 led by John Scott. Among the many ferns illustrated, especially interesting were those of the New Jersey Pine Barrens including *Botrychium virginianum* and *B. matricariifolium*, (as Alan pointed out, botrychiums are comparatively common in this part of the USA) *Schizaea crispa* ('curly grass') and the clubmosses *Lycopodiella appressa* and *L. caroliniana*. Woodland by the River Susquehanna produced 'the walking fern' *Asplenium rhizophyllum* (one of Alan's favourites) with *A. montanum* and their fertile hybrid *A.* × *pinnatifidum*. Another particularly striking group, found by the Dunfield Creek Trail in the Delaware Water Gap, included *Woodsia ilvensis* and *W. obtusa* and that most attractive of often cultivated ferns, here growing wild, *Cheilanthes lanosa* with its hairy stipe and leaves.

Our last fern hot spot involved a long journey east to Hong Kong where Michael Hayward showed us some of the species of this densely populated area. We started with a trip to the Howgate Conservatory and Botanic Gardens on Hong Kong Island with its superb tree-ferns, including the splendid *Angiopteris evecta* 'elephant fern', before moving on to the Peak, which gives a stunning view of the city. Here the fern species included *Selaginella uncinata*, the 'rainbow spikemoss' with its blue-green iridescent foliage. At the time of Michael's visit the area had just endured its driest autumn and winter on record and much damage had been done to the hillsides by fire. However, it was encouraging to see *Blechnum orientale* sprouting again after burning. A different type of habitat was provided by the saltmarsh behind Silvermine Bay on Lantau Island where a fine colony of *Acrostichum aureum* occupied up to two hectares of land. Finally Michael showed us his new record for Lantau Island, *Phymatosorus longissima*, growing in marshy ground and only the third record for the New Territories.

With the completion of Michael's talk the first part of our programme was at an end and thanks are due to all four speakers for such an excellent and varied morning. The East Anglia group had laid on a tempting choice of foodstuffs for lunch and, having eaten, members took the opportunity to wander round the Botanical Garden or to patronise the bring-and-buy fern sale, or the stalls offering variously, journals, fern books and BPS merchandise.

The afternoon's activities began with 'The Pteridological Antiques Roadshow'. Barrie Stevenson had invited members to bring in any old and interesting fern-related items. These had been on show during the morning and lunch-time and were now used by Barrie as the subjects for his Antiques Roadshow. This was a tremendous *tour de force*, as Barrie spoke expertly and entertainingly on whatever ferny object came to hand. At no point during the entire performance was he lost for words! In fact the audience was enjoying itself so much that it was decided to postpone the AGM for a little longer until almost every ferny object had had its moment in the limelight or until Barrie ran out of steam (he didn't). When the last item had been thoroughly discussed, the Society got down to business and the AGM began. A full report can be found on page 416.

photo: M.S. Porter

Barrie Stevenson expounding on an exhibit in the Pteridological Antiques Roadshow, Cambridge

Barrie Stevenson and the East Anglia group deserve our gratitude for setting up such an enjoyable and well-organised day and for the warm and welcoming atmosphere they created.

AUTUMN INDOOR MEETING, NATURAL HISTORY MUSEUM, LONDON – 18 November Graham Ackers (with Barrie Stevenson, Michael Hayward, Robert Sykes)

In recent times this final meeting of the season has been themed. This year I decided to discard the themed approach in favour of a 'miscellany', potentially to allow members to share their own particular interests with others. However, those of you who saw the programme will know that we did end up with a 'semi-theme' – books! This was further emphasised by the appearance of dozens of rare antiquarian volumes, which were displayed around the very comfortable lecture room of the Department of Palaeontology at the Natural History Museum.

With the various displays in place, Martin Rickard commenced telling us about 'The Victorian Fern Book Phenomenon' by announcing the availability, hot off the press, of his new book co-authored with Nigel Hall, *Fern books in English published before 1900* (BPS Special

Publication No. 9). Martin used this book as the framework for his talk, which was appropriately illustrated by reference to the many books on display. Holding these works aloft, he expertly guided us through the many fern authors, their books and their various editions – some being virtually identical, others having worthwhile improvements, or in at least one case, with quality deterioration (the plates in the later editions of Mrs Lankester's British Ferns displayed a distinct quality reduction!) A very pleasing feature of Victorian books is the decorative gold stamping on their covers, and Martin demonstrated some where the same fern image blocks had been used on different books. The locations of regional fern floras were shown on a map of Britain, demonstrating the focus (unsurprisingly) on our fern-rich areas.

The first of the two 'non-book' talks was 'Recording Fern Hybrids' by Fred Rumsey. There are 47 pteridophyte hybrids currently listed in the British flora, this being quite a high number in relation to the size of the country and flora. Hybridisation is an important contributor to the diversity of our ferns as 25 of our fern species originally resulted from hybridisation. On the Continent there are about ten non-British hybrids where the parent species occur also in this country, so it would be worthwhile to look out for these in the field. At the same time, some of our recorded hybrids are either extremely rare, or possibly extinct, so a watch should be kept for these also. Perhaps we could expect to find hybrids of *Ophioglossum*, the cross between *Hymenophyllum tunbrigense* and *H. wilsonii*, and maybe our *Huperzia selago* is a species/hybrid complex. By performing an analysis of five regional floras, Fred concluded that fern hybrids are under-recorded, even by competent field botanists. Fred's presentation concluded with some ideas and a short discussion on how the Society might contribute to the recording of fern hybrids.

photo: F.J. Rumsey

***Asplenium* × *microdon* in Guernsey**

In commencing his talk on 'New Zealand Fern Albums', Barrie Stevenson explained how he had become intrigued by the efforts of Victorians in collecting and fixing actual plant specimens in the pages of albums. His interest in New Zealand fern albums in particular had been fired by Martin Rickard's 1986 article in the *Pteridologist*. Having photographed those in the Natural History Museum, in 2005 Barrie spent six weeks in New Zealand, a trip that included viewing and photographing the many fine albums in the collections of the Wellington and Auckland Museums. Whilst showing us these images, Barrie related what was known about the albums' main creators – Craig, Cranwell and Seuffert. Having kauri wood

covers with beautiful marquetry, Barrie argued that these albums were intended to be displayed flat, perhaps as 'coffee table' adornments, and they were sometimes bought by settlers to send home as presents (a Cranwell advertisement actually suggested them as being the "Best Present for England"!) One fascinating photograph showed a beautiful box, produced by Eric Craig, containing 25 cards of mounted ferns, amazingly all with their colours well preserved. In concluding, Barrie pointed out that these albums should be considered more as works of art than scientific publications, and he directed us to the various items on display.

In his talk 'Three Centuries of Nature Printing', Michael Hayward presented an overview of the wide range of Nature Printing techniques and publications used between the 18th century and the present time. The imperial printing house in Vienna recorded impressions, not just of botanical subjects, on a lead plate from which either electrotypes or stereotypes could be created. Many examples from Vienna were illustrated. The most characteristic feature of the stereotyped plates is that the image of the frond is embossed, as well as being printed in intaglio, making the image stand out from the page in the best examples. Henry Bradbury learnt the technique whilst visiting Vienna, using it for four publications including his greatest achievement, Moore and Lindley's *The Ferns of Great Britain and Ireland*. In contrast, Colonel Jones' nature prints, of which several thousand are in the possession of the BPS, are flat and rather dull images created by impressing a frond coated on both sides with black printer's ink between two sheets of paper. The present state of Michael's research into the Jones prints was reported.

Robert Sykes in 'This Summer's BPS Germany Tour' gave an account of the joint visit by the BPS and the Hardy Fern Foundation to Germany in July 2006 (fully reported elsewhere in this *Bulletin*). It was a fully international party, with the USA and Britain well represented, plus one person from Holland, several from Germany itself and two South Africans for part of the time. The visit was led by Berndt Peters (with Patrick Acock handling much of the administrative detail). The party of 24 visited nine gardens, three fern nurseries, and two wild sites close to the Czech border. Germany does not have a huge wild fern flora, but the gardens were outstanding. Berndt's garden had about 700 taxa, and Christian Kohout's garden had about the same, nearly all well grown flourishing plants. Other gardens with fewer plants nevertheless had a wide range, with many ferns new to most of the party. There is a strong culture of growing from spores, creating new hybrids, and passing material round to other growers. Robert's conclusion was that this was a successful and exciting visit.

My talk was entitled 'Opportunities from Fern Plate Iconography?', the question mark implying an invitation to those present to give their opinions as to whether the BPS should publish some of the fine fern images from early published works. The publications covered were James Bolton's *Filices Britannicae* (1785), *Curtis's Botanical Magazine* (1787 to date), Hooker's *Botany of the Antarctic* (1844-1859), *Flora Graeca* (1806-1840) and *Banks' Florilegium* (1980-1990). Apart from the first, these were not primarily fern publications, and so the fern images and their story would probably be unknown to most fern enthusiasts. A brief account was given of the history and background to each publication, including potted biographies of the main participants. Apart from the actual published works, there were potential opportunities from publishing James Bolton's original drawings as well as the pattern plates for the *Botany of the Antarctic*, both of which are at the Natural History Museum. I summarised the talk by discussing whether either the *Pteridologist* or a Special Publication might be the best vehicle for publication.

Although the turnout of 28 members was a little disappointing, I felt that this was a most interesting and successful meeting, and would like to thank the speakers, as well as Adrian Dyer and Alastair Wardlaw for chairing the morning and afternoon sessions respectively. Particular thanks are due to Alison Paul who so conscientiously and successfully planned and executed the in-house logistics to ensure a smoothly running enjoyable day.

REGIONAL MEETINGS

YORKSHIRE FERN GROUP (formerly Leeds & District)

Moonwort Surveys, Pennine Dales (Cumbria/North Yorkshire) – 20 & 27 May

Barry Wright

The usual band of keen moonwort hunters (John and Brenda Wilson and Bruce Brown) turned up on a relatively inhospitable day to continue the surveys we began in 2001. The moonwort surveys in 2006 were centred south-west of Barnard Castle between Arkengarthdale (off Swaledale) and the highest pub in England, the Tan Hill Inn. This area did not seem as promising as other areas in the Dales that had been visited in the past. However, I did a reconnoitre on 17th May to determine the best places to begin the survey. This revealed that the section from Arkengarthdale almost as far as Tan Hill was very unproductive in terms of suitable habitat – although the area was high enough, being greater than 300 metres altitude, much of the grassland bordering the road was relatively wet and rush-infested. Having reached Tan Hill and progressed beyond, it appeared that this area was the most likely to yield good quantities of moonwort records.

On this basis we arranged to meet at the Tan Hill Inn (35/896066) on 20th May. From here we drove up to one of the sites I had found earlier (35/863102) where there were not only good quantities of moonwort (*Botrychium lunaria*), but also small colonies of *Selaginella selaginoides* growing on the roadside next to a disused quarry. At this location it seemed likely that there were calcareous outcrops nearby creating favourable conditions for moonwort.

photo: B. Wright

***Botrychium lunaria* in the Pennine Dales**

(1p coin 2cm diameter)

The group then split up. As suspected, the area was relatively poor, with records being of small colonies irregularly and widely spaced along the roadsides radiating out from Tan Hill. We met up at the Inn for lunch before starting our afternoon session, which continued to reveal relatively low records.

Having had a relatively disappointing day, I returned a week later to complete a section that I had initially looked at in 2005, north-east from Arkengarthdale across a very high section of open moor known as The Stang road. This revealed a number of good moonwort records, and, most surprisingly, there was a small colony of adder's-tongue fern (*Ophioglossum vulgatum*) located just before the road descends from the moor tops into the woodland at grid reference 45/020071. This was a remarkable record as it was at 509 metres, the highest altitude record we have ever recorded during our moonwort and adder's-tongue fern surveys.

We agreed that next year we would return to some of the locations in the North York Moors National Park where we began our epic moonwort surveys, and resurvey some of these to try to find out whether or not there have been any population changes since our initial visits. In addition, we will investigate some new areas in the Pennine Dales, possibly going as far north as Teesdale.

Brockadale Nature Reserve, West Yorkshire – 3 June

Brian Byrne

On the first hot sunny day of the summer just four members gathered in the car park of this large Yorkshire Wildlife Trust reserve (44/512173). We were here at the invitation of Paul and Joyce Simmons of the reserve management committee, who wanted us to clarify and confirm some of the ferns of the Dryopteridaceae that they had found. With their detailed knowledge of the site, we were also hoping to improve on the number of ferns recorded on our Group's last visit here in 2000, particularly as no-one present on this trip had been on the previous one!

The reserve, situated about nine miles NNW of Doncaster on the Magnesian Limestone, is essentially an elongated patchwork of woodland and grassland stretching for about two miles on both sides of the steep-sided valley of the river Went, and most of the limestone crags here are within the woodland and in shade. In spite of the heavy and prolonged rainfall prior to our visit, the whole site was quite dry. The long-term average annual rainfall in this area is low (less than 24 inches), and the average summer potential water deficit is about four inches, so the pteridological potential of the reserve is severely limited.

We set off from the car park and must have walked nearly half a mile, partly through botanically rich and colourful limestone grassland, before seeing a fern – male fern, *Dryopteris filix-mas*, at the stile into woodland (44/508170). This was followed by hart's-tongue, *Asplenium scolopendrium* in quantity and broad buckler fern, *Dryopteris dilatata*. The polypody on a rotting log (44/510171) was later confirmed by Bruce Brown to be *Polypodium vulgare*. Our hosts led us to a magnificent twayblade meadow, where moonwort was also known to grow and where a few years ago they had discovered adder's-tongue. They had prepared for our visit and took us straight to the colony of *Botrychium lunaria* (44/506170) – good specimen plants up to six inches tall in the long grass, and the nearby *Ophioglossum vulgatum* – plants up to eight inches tall in similar vegetation and seemingly in the drip-zone below the edge of the crown of a tree.

On our way from the meadow down to the riverside path we came across some fine specimens of scaly male fern, *Dryopteris affinis* subsp. *borreri*. The path was through hart's-tongue-rich woodland and we walked west towards the village of Wentbridge. At the base of an almost barren limestone crag above the path were just two plants of maidenhair spleenwort, *Asplenium trichomanes* subsp. *quadrivalens* (44/501172). On the river side of the path below this crag was a good, if somewhat dwarfed, specimen of narrow buckler fern, *Dryopteris carthusiana* growing on a log and so avoiding the calcareous substrate. A short distance further on and up the slope on our left was a magnificent soft shield-fern, *Polystichum setiferum*, with about six smaller satellite plants around it. After passing under the A1 trunk road we walked through a large colony of common horsetail, *Equisetum arvense* (44/492171). We crossed the river in Wentbridge and walked back on the north side, recording three or four plants of wall rue, *Asplenium ruta-muraria*, on the limestone outcrop above the path (44/500175). The last species of fern seen on the reserve was bracken, *Pteridium aquilinum*.

Thirteen fern species is not a great haul, and we had missed the lady fern, *Athyrium filix-femina*, growing by the river and seen by members on their visit six years ago; but they did not see the *Polystichum* or the *Botrychium*. The majority of ferns were scarce (one to four individual plants) and/or restricted to one small specific location and easily missed in such a large reserve. I never imagined that I would ever regret not seeing *Athyrium filix-femina*!

Renishaw Hall and Hillside Gardens, Chesterfield, North Derbyshire – 26 August

Paul Ruston

The main emphasis of this meeting was to look at the fern collections and fern culture at two of east Derbyshire's most beautiful private gardens. Eight members and one guest assembled at Renishaw Hall (43/436786), the home of the Sitwell family. The gardens at Renishaw are of the Italianate style with woodland and lakeside walks.

Our walk around the perimeter of the garden took us along the top of a long, stone-terraced rose border where we saw *Dryopteris filix-mas*, *D. affinis* subsp. *borreri* and *Asplenium scolopendrium* in the wall, and on the south-facing wall of a ha-ha were cushions of *A. trichomanes* subsp. *quadrivalens*. The fern border at the start of the woodland walk displayed most of the popular and available species and cultivars of British and hardy foreign ferns: *Adiantum aleuticum*, *Athyrium otophorum* var. *okanum*, *A. niponicum* 'Pictum', *Cyrtomium falcatum*, *C. fortunei*, *Dryopteris affinis* 'The King', *D. filix-mas* 'Barnesii', *D. filix-mas* 'Polydactyla', *D. wallichiana*, *Polypodium vulgare*, *Polystichum setiferum* 'Divisilobum' and *P. polyblepharum*. Despite the severe summer drought all looked in fine fettle. We followed the woodland walk to a spot above a disused quarry, where down below us we could see what were obviously six very green and leafy tree-ferns. A somewhat steep descent of the steps enabled us to discern that they were young *Dicksonia antarctica*, their trunks averaging around sixty centimetres in length. According to the Head Gardener, David Kesteven, these tree-ferns receive minimum attention throughout the year, save for occasional watering during very dry summers, and use of straw to protect the crowns when temperatures below freezing were imminent. The fronds apparently remained green during the winter of 2005/06, until sharp frosts in March 2006 turned them brown. Among the dicksonias were several young and very small *Matteuccia struthiopteris*, none with fertile fronds.

photo P I. Ruston

***Dicksonia antarctica* at Renishaw Hall, Derbyshire**

The quarry and woodland slopes were populated with some grand looking *Dryopteris dilatata*. We mused over several *Dryopteris* occupying the upper parts of a derelict gatehouse; *D. affinis* subsp. *borreri* seemed more probable than *D. filix-mas* as the lamina was rather yellow-green and glossy. On our way back to the car park and café for lunch, some of us passed through a narrow courtyard where a keen-eyed member spotted several *Asplenium adiantum-nigrum* in a wall above, growing among some stunted plants of *A. scolopendrium* and *Dryopteris filix-mas*.

After lunch we spent a leisurely hour enjoying these splendid gardens at our own pace. The National Yucca Collection was much admired by all, as was the magnificent *Magnolia grandiflora* covering the south side of the house. Some members availed themselves of the produce of the Renishaw vineyards.

A short drive in the afternoon took us to Hillside, New Whittington, where we were met by Eric Lee. Eric's garden, on a steep sloping site, is landscaped with streams, pools, rock gardens and terraced paths which, with the liberal use of a wide variety of small trees, shrubs, alpines and herbaceous plants, has created a garden that is of interest throughout the year. Plantings of numerous varieties of *Pinus mugo*, junipers and bamboos first greet you at the start of the garden tour. Eric maintains that he has 150 species and varieties of ferns at Hillside and that ferns are his favourite plants. We began our tour at the top of the garden where we saw *Adiantum venustum*, *Osmunda regalis* and *Equisetum scirpoides* along the margins of a stream and pool; Eric assured us that he manages to control the spread of this *Equisetum*. Working our way steadily along the terracing, where carefully maintained shrubs provide sheltered spots for ferns, we saw *Athyrium filix-femina* 'Frizelliae', *A. niponicum* 'Wildwood Twist', a very nice *A. otophorum* and several plumose *A. filix-femina*. A very crispy looking *Dryopteris hirtipes* and a striking *D. dickinsii* with yellow fronds and dark scales caught our attention, as well as *D. atrata*, *D. sieboldii* and *Polystichum rigens*. Upon reaching the bottom of the garden we

viewed Eric's main fern collection, where we discussed the identification of several *P. setiferum* (*P. setiferum* 'Smith's Cruciate' stood out from the crowd) and *Polypodium cambricum* variants; Eric is in the process of relabelling his ferns. By the margins of a pool we admired *Osmunda claytoniana* and a small group of some very lacy looking *Paesia scaberula.*

The day finished with refreshments courtesy of Eric. Thank you Eric for an interesting and memorable afternoon.

AGM, RHS Garden Harlow Carr, Harrogate, North Yorkshire – 30 September **Bruce Brown**

We do not normally report on our AGM activities but one or two items this year were of wider interest. Our group name has been discussed at previous annual meetings, but this time, after some debate, we finally decided to change it to 'Yorkshire Fern Group', as 'Leeds & District' was no longer felt to fully reflect our geographical area of operation.

The other news was that Barry Wright had decided to stand down as Chairman in order to concentrate more on his PhD studies, although he will continue as a member of the Group. He has served in office for ten years and as a token of our appreciation for all his hard work and dedication to the Group we presented him with a book token and also gave flowers to his wife, Anne.

No Chairman was elected, but Alison Evans agreed to take on many of Barry's administrative duties as Meetings Secretary. Bruce Brown was re-elected as Treasurer/ Secretary and will become the official contact for the Group. A 2007 meetings programme was provisionally agreed.

A tour of the NCCPG National Collection of *Polypodium* at Harlow Carr revealed some naming discrepancies – earlier we had been examining fronds from Barry's extensive *Polypodium* collection with a total of 42 species and cultivars. We also felt that the number of different taxa ought to be more extensive in a National Collection. Several members volunteered to help Barry liaise with Harlow Carr to upgrade and rename their collection. Ken Trewren also offered to help with their National Collection of *Dryopteris*.

SOUTH-EAST

Portsmouth, Hampshire – 15 July (Leader: Andrew Leonard) **Steve Munyard**

On a warm sunny day ten members assembled at 41/597123 to explore the mixed oak woodland at West Walk, north-east of Wickham. Walking alongside ditches and banks through the woodland we observed, in order of appearance, *Pteridium aquilinum*, *Blechnum spicant*, *Dryopteris dilatata*, *Athyrium filix-femina*, *Dryopteris carthusiana*, *D.* × *deweveri*, *D. affinis* subsp. *borreri*, *Osmunda regalis*, *Dryopteris filix-mas*, *D. affinis* subsp. *affinis*, *Polystichum setiferum* and *P. aculeatum.* An excellent range of ferns for a wood in this part of the country, which enabled us to point out their distinguishing features to some of our newer members. On our way back to the cars we saw many large fritillary butterflies, probably silver-washed fritillaries.

After a picnic lunch near the car park we moved just a mile north to 41/601141 to look at an old railway bridge across a disused railway cutting now used as a footpath. In the bridge brickwork we noted *Asplenium ceterach* and *A. adiantum-nigrum*. Below in the cutting we saw *Polypodium interjectum*, *Asplenium scolopendrium*, *Dryopteris filix-mas*, *D. affinis* subsp. *borreri*, *D. dilatata* and *Polystichum setiferum*, all growing luxuriantly in the deep shade.

We then drove in convoy to Bashons in Scott Road, Hilsea, on Portsea Island. Below this war-time gun emplacement was a large colony of *Ophioglossum vulgatum* on flat ground beside *Equisetum arvense*.

Our last stop of the day was at the 'Portsmouth Botanic Gardens', as Andrew's allotment is affectionately known to South-East Group members. Here, under two enormous polythene tunnels, was Andrew's outstanding collection of plants, gathered over many years. One tunnel was covered in polythene with elliptical holes in it, effectively a shade house open to the elements, and the other was fully enclosed. As it is so close to the sea and temperatures rarely fall below –2°C, plants grow here that most of us can only hope to raise in a heated house. The ferns were too numerous to mention but there was a whole range of Macaronesian plants as well as hardy ferns from all around the world. The only other plants grown were a few palms.

We enjoyed a barbecue produced by Andrew, his friend Carol and her aunt, which rounded off a well-planned and enjoyable day. We must say a big thank you to Andrew, who always researches these days so well, surprising us with a good range of ferns and habitats in a part of the country where unusual ferns are not so easy to track down, and many of us left with plants from his polytunnels.

Bagshot Heath, Camberley and Savill Gardens, Windsor, Berkshire/Surrey Borders – 9 September (Leader: Graham Ackers)

Bryan Smith

photo: Bryan Smith

***Dryopteris cristata*, Bagshot Heath, Surrey**

Peter Tindley, Barrie Stevenson, Peter Clare

A gloriously sunny day bode well for our annual joint South-East and East Anglia Groups' meeting and around 20 members met at Bagshot Heath (41/890624). A walk of about a mile across the Heath led us to what was, for the East Anglian members particularly, a real treat – *Dryopteris cristata* outside its usual Norfolk Broads habitat. Several stands of this beautiful fern were found growing within a fairly small area alongside a stream; although we searched on both sides it was only found on the east side of the stream in Surrey and not on the Berkshire side. One wonders "Why here?" when it is such a rarity outside Norfolk. We also found *D. carthusiana*, but try as we may, no convincing observations of *D.* × *uliginosa* (the *D. carthusiana* × *D. cristata* hybrid) could be made. Other ferns seen that morning were *D. dilatata*, *D. filix-mas*, *Athyrium filix-femina*, *Blechnum spicant* and, of course, *Pteridium aquilinum*.

After a picnic lunch on the Heath, we drove to Savill Gardens (41/976710), 35 acres located within Windsor Great Park and created in the 1930s by Sir Eric Savill. A small splinter group went initially to find *Oreopteris limbosperma* alongside a lake about half a mile from the car park, and other ferns seen here were *Athyrium filix-femina*, *Osmunda regalis*, *Dryopteris dilatata*, *D. filix-mas* and *Pteridium aquilinum*. Meanwhile, the rest of the group went directly into the gardens, and what an outstanding collection of ferns (and other plants) was seen. John

Bond built up a National Collection of Hardy Ferns here, and apparently what was left of this collection had recently been supplemented with many new plants. A full list of ferns would take up several pages, but just to whet your appetite it included *Dryopteris caucasica*, *D. championii*, *D. crassirhizoma*, *D. cristata*, *D.* × *fraser-jenkinsii* (*D. affinis* × *D. guanchica*), *D. goldiana*, *D. juxtaposita*, *D. redactopinnata*, *D. stenolepis*, *D. sublacera*, *D. uniformis*, *D. yigongensis*, *Osmunda regalis*, *O. cinnamomea*, *Polystichum piceopaleaceum* and *Woodwardia orientalis* subsp. *formosana*. The labelling was very clear and in a number of cases included acquisition details, some originating from Chris Fraser-Jenkins, and I gather (but did not spot) some donated by the BPS as well.

Once again, a pleasant day was had meeting ferny friends and seeing some lovely ferns.

photo: L.A.M. Williams

Savill Gardens, Windsor Great Park

Geoffrey Winder, Howard Matthews, Gerald Downey, Bryan Smith,
Tim Pyner, Peter Tindley, Barrie Stevenson, Steve Munyard, Gill Smith

Mallydams Wood, Steve and Karen Munyard's and Mark Border's Gardens, Hastings, East Sussex – 4 November

Pat Acock

About a dozen of us gathered at the RSPCA (Royal Society for the Prevention of Cruelty to Animals) Centre at Mallydams Wood near Fairlight (51/862124), where we were given an introduction to the Centre and an outline of the topography of the wood by Bel Deering, the centre's manager. We had a list of ten ferns present and we managed to see them all as well as *Dryopteris affinis* subspp. *affinis* and *borreri*. The woods are a valuable asset to the RSPCA. They use them as a teaching resource for local groups and schools and are aware of their potential for restoration; a number of exotic trees are present and pose no problem, but some work in removing the cherry laurel and rhododendron would greatly improve the site for ferns, especially in the small pond area. The richest area for ferns was along the small stream-bed where the most notable plants were a large *Polystichum setiferum* and a few very tall *Dryopteris affinis*.

We moved on to Steve and Karen's house in Hastings, where we were able to share the triple delight of viewing their garden, looking at the library and having a hearty lunch. The

garden is on a steep bank, sloping down to one of the famous Hastings glens. Here in the open and in three glasshouses Steve has a magnificent collection of plants with a range of themes but most notably ferns. Many run rampant over the terraces and in amongst them you need to search for little gems like *Asplenium septentrionale*. Steve's 'library' consists of a range of fern books gathered over a great many years and from all over the world as well as a wonderful collection of floras. The lunch… One has to experience one of Karen's lunches to really appreciate them.

At Mark Border's new home in St Leonards-on-Sea we discovered that he had invested in an even bigger garden, which carries straight on and into a lovely Sussex wood. Close to the house Mark has arranged beds with a number of plants with interesting ferns, especially behind the large cactus house that housed rare delights such as *Adiantum reniforme*. In the old woodland Mark explained that he did not have to clear much as the mature trees prevented such nuisances as brambles and bracken and basically all he had to do was add a fern here or there or dig a small area over, mulch and add the ferns, as he had done with a bed of *Asplenium scolopendrium* cultivars. One part of the garden had cultivars, another British ferns and another had exotic ferns. Tim Pyner and I were examining one beautifully growing *Dryopteris azorica* only for Tim to discover he had given the plant to Mark a few year's earlier and of course it was much better than the one he had in his own garden.

After tea and cakes we examined a beautiful collection of books Mark had set out and then watched slides from members' recent exploits in Canada, the Azores and Réunion. Grateful thanks go to Mark Border, and Karen and Steve Munyard for yet another most excellent meeting in the south-east.

EAST ANGLIA

Indoor Meeting, Thurlow, Suffolk – 21 January **Barrie Stevenson**

Continuing our traditional winter series of talks, guest speaker Michael Hayward shared with us his enthusiasm and deep knowledge in a presentation entitled 'Close-up on Ferns of the World'.

Michael lives in south-west Lancashire, a five-minute walk from Great Crosby's seashore. His garden is sandy and prone to strong winds, and he has coped with growing ferns in such inhospitable conditions by enriching the soil and erecting shelter in the form of wooden structures wreathed in climbing plants. He has also built scree beds, banks and walls to accommodate ferns, and tender specimens are grown under glass. We were given a photographic guided tour of Michael's garden, admiring particularly *Dicksonia antarctica*, *D. fibrosa* and *Cyathea smithii*, below which grew a *Pellaea* protected only by the tree-fern fronds. The soil is neutral and *Cystopteris fragilis* is thriving and becoming positively invasive. Lime is added for the growing of polypodies.

In complete contrast, Michael gave us a whistle-stop tour of fern-hunting trips undertaken since he became a BPS member. Highlights included, from Tenerife, *Cheilanthes pulchella* growing in lava fields and vast areas of *Adiantum reniforme* growing not only in damp shade but also on the tops of walls exposed to sunlight. From Madeira we particularly admired *Asplenium* (*Ceterach*) *lolegnamense* and *Diphasiastrum maderense*. Here the growth of *Trichomanes speciosum* was so lush and the fronds so long that it was "necessary to wade through it", as Michael explained. *Woodwardia radicans* grew to a vast size, and the alien *Cyrtomium falcatum* covered large areas. Finally we were impressed by the ferns of Trinidad, which were often enormous, *Pteris gigantea*, for instance, truly living up to its name, and even *Trichomanes superbum* sported fronds three cells thick. Michael's photographs were superbly composed, always relating subject to background, but his most outstanding shots were those concentrating upon minutely observed details: a perfectionist approach indeed.

On display during the meeting was Michael's collection of books illustrated by Nature Printing, a method originally perfected on the Continent and shamelessly purloined by Henry Bradbury for his own use in the production of such publications as *Nature-Printed British Ferns* by Thomas Moore (Octavo: 2 vols., 1859). Nature Printing pre-Bradbury is little known in this country and it was a delight to see this collection and hear the history of the development of a now-defunct method of printing.

As well as expressing our thanks to Michael on behalf of a large, appreciative audience (including an enthusiastic group of South-East Region members) we were much indebted to Mary Hilton, who again acted as hostess for our ever-popular winter treat.

Harefield Place Nature Reserve, Harrow Weald Common and Howard Matthews' Garden, Middlesex – 3 June

Tim Pyner

On a sunny morning, eight members met Howard Matthews, our leader for the day, at Uxbridge Golf Course for the short walk to Harefield Place (51/056871). The reserve is managed by Hillingdon Natural History Society and consists of oak/ash woodland on boulder clay. Ten species of fern and horsetail had been recorded previously and the group managed to re-find them all. *Dryopteris filix-mas* and *D. dilatata* were frequent. *D. carthusiana* occurred as scattered plants in damper areas. There were a few *D. affinis*, one plant was probably subsp. *affinis*, the remainder being probable subsp. *borreri*. *Athyrium filix-femina* was occasionally spotted and a few *Polystichum setiferum* flourished in one area. A handful of *Asplenium scolopendrium* were spotted hidden under undergrowth and Howard showed us a large colony of *Polypodium interjectum* on a fallen tree. The final species found was *Equisetum palustre* in a pond, one of a handful of its known sites in this part of Greater London.

We then drove on to Harrow Weald Common where we took lunch at Old Redding, with superb views across the London Basin to the Surrey Hills. We then walked across the road to the wooded common (51/143928). This wood consisted mainly of oak and hornbeam, and the acid nature of the soil was revealed by the large amounts of *Pteridium aquilinum*. Much of the wood was previously part of the Grimsdyke estate, the former home of Sir William Gilbert. The impressive house still stands and was being used by a wedding party when we arrived. We managed to skirt around the gardens without attracting too much attention, admiring *Asplenium trichomanes* subsp. *quadrivalens* and *A. scolopendrium* on the brick walls. Fine clumps of *Osmunda regalis* surrounded a pond and *Matteuccia struthiopteris* was established in a border. Away from the formal garden a nice colony of *Onoclea sensibilis* was naturalised by a shaded pond.

Away from Grimsdyke House, Howard showed us *Blechnum spicant*, a single small plant on the side of a small ditch. In 1990 Howard and a predecessor of this plant achieved some prominence in the local press. Unfortunately it was due to the plant's demise (Howard having informed the newspaper of this fact), as it was the last plant known from Middlesex, having existed here since its discovery in 1866. However, since then *B. spicant* has been found on Hampstead Heath and now this sporeling has been found at the original spot. Further along the track a few stems of *Equisetum sylvaticum* were seen by the ditch, apparently part of a much larger colony extending into an overgrown meadow that was not open for access.

We made our way back to our cars and headed to Howard's garden in Harrow for our much-anticipated visit. We were not disappointed with what we saw. The garden was full of ferns, laid out in different habitats including rockeries, troughs and ponds. Howard thoughtfully provided a list of his ferns that included planting dates and location in the garden. The list revealed that 140 taxa are grown and over 60 of these are *Dryopteris*. They were very well grown and it was interesting to see so many growing side-by-side so that

subtle differences could be compared. A good selection of other hardy genera is grown and all were in prime condition. The day was completed with an excellent spread of food and drink. Our thanks go to Howard and his wife Tina for a very well organised and memorable day.

Upton Broad, Norfolk – 15 July

Bryan Smith

George Taylor, Nature Warden with Norfolk Wildlife Trust, has been a good friend to the BPS over the years, having been our guide on two national meetings and two local meetings, so a chance of his expertise on another trip was something to look forward to. Upton Broad (63/380137) is an area of around 70 hectares to the north of Acle and has been largely unexplored for pteridophytes. A small but keen band of East Anglia group members met up with George on this lovely sunny day and proceeded to explore the fen on the western side of the broad. We quickly came across *Dryopteris dilatata*, *D. carthusiana*, *Athyrium filix-femina*, *Thelypteris palustris*, *Pteridium aquilinum* and *Equisetum arvense*.

After lunch, we drove round to the eastern side of the broad, an area only acquired by the Trust in the past couple of years. In addition to some of the same species we had seen in the morning, we added *Equisetum fluviatile* to our list, and had the added bonus of seeing acres and acres of marsh fern, almost like lush lawns! Unfortunately, *Dryopteris cristata* remained elusive throughout the day – one felt it ought to be there, and no doubt further exploration will reveal its whereabouts.

The fens are not an area to explore incautiously, and even with George's careful guidance one of our party managed to disappear up to the waist in smelly brown mud having stepped on an innocuous patch of scrub. Apparently, the mud can extend to a depth of five metres beneath the broad! Fortunately, the hot sunny day and closeness of the freshwater broad enabled stripping off for a wash, much to the dismay of the local wildlife.

We spent a glorious sunny day exploring, and apart from the ferns were rewarded with seeing a number of orchids, dragonflies (Upton Broad is in the top ten of UK dragonfly sites) and butterflies (including the elusive white admiral). George again came up trumps.

Autumn Indoor Meeting, Barrow, Suffolk – 21 October

Barrie Stevenson

At the time of writing, we look forward to our end-of-year meeting, very kindly hosted by Marie and Geoff Winder. We shall no doubt admire late cyclamen and early snowdrops and, of course, the many ferns established in the garden and those in earlier stages of growth in greenhouse and cold frames.

We shall enjoy images from the past year's meetings and from gardens with particular ferny interest both at home and abroad. There will be a display of fern-related books and artefacts, a bring-and-buy fern sale, and we shall wind up the season with a fine spread of food, which is a splendid tradition of this particular gathering.

NORTH-WEST

Helsington Barrows, Kendal, and Robert Sykes' Garden, Crosthwaite, Cumbria – 17 June

Peter Campion (a.m.) & Melville Thomson (p.m.)

Helsington Barrows, part of Scout and Cunswick Scars SSSI, is the southern end of a limestone escarpment with open woodland, about two miles south-west of the centre of Kendal. The rich turf covers limestone, with areas of loose stones, 'sinks' and small grykes providing niche micro-habitats for ferns. Some three to four years had elapsed

since sheep were removed, since when the area has been grazed by a number of Black Galloway cattle; as a result, a number of trees were beginning to regenerate, including white beam, oak, larch, hawthorn and juniper. Many other plants had recovered as well, although blackberries and other less desirable species were taking advantage too. Getting the balance right for the rarer plants, animals and birds will be a challenge for the National Trust.

After meeting at one of the entrances (34/494899), Gordon Clarke (one of our members) briefed us and gave us an optimistic list of ferns that we might find. We found a *Polypodium* growing on the limestone dry-stone wall. The specimen was not good but seemed to be either *P. interjectum* or *P. cambricum*; perhaps a return visit in the autumn will settle the matter. The dominant fern of the whole area was found to be *Pteridium aquilinum* – no surprise there. We then walked north across to an area of loose stone in which was found *Asplenium trichomanes*, luxuriant tufts of *A. ruta-muraria* and a single *A. viride*; for many of us it was the first time we had seen *A. ruta-muraria* growing other than on a wall. A rather poor specimen of *A. scolopendrium* was seen struggling to develop in a spot that was a bit dry and in strong sunlight. The developing flowers of the dark red helleborine *Epipactis atrorubens* were also spotted.

We were then led up the hill through mixed woodland and open grassland towards the summit and on the way we saw *Dryopteris filix-mas*, *D. dilatata*, *Oreopteris limbosperma*, *Athyrium filix-femina* and *Blechnum spicant*, the latter quite happy in the humus over the limestone. As we came out again into the open, a 'sink' gave us our first view of *Cystopteris fragilis*, growing very well along one side of the rim. Then on to one of the few grykes with a mature *Asplenium scolopendrium*, a rarity (on the Barrows), obviously protected from grazing in the narrow crack in the rocks.

At the top of the hill we were treated to the lesser butterfly orchid, *Platanthera bifolia* and more *Epipactis atrorubens*. Among the loose rocks on the ridge was an abundance of *Asplenium trichomanes* and some *A. viride*. Next we went down into a gully and then as we climbed up a steep slope, there at the top of the scree was a wide spread of *Gymnocarpium robertianum*; many of us felt the visit was worth it for this alone! Further areas of *Cystopteris fragilis* were also present.

Much needed picnic lunches were enjoyed, the stunning views towards Morecambe Bay and the antics of skylarks enjoyed. A vote of thanks was given to Gordon for his guidance and obvious love and care for this outstanding piece of Lakeland. Of Gordon's original list we saw all that he had suggested with the exception of sorting out that *Polypodium*!

In the afternoon we had the privilege and pleasure of visiting Robert and Sue Sykes' garden at Ormandy House in Crosthwaite. Though the planting is by no means restricted to ferns, it is immediately apparent that they feature largely. Robert recounted how an approach by the NCCPG aiming at nomination as a National Collection had petered out, and one can understand their reservations, the garden being much more of a Personal Selection. Robert's comments about each and every fascinating oddity – anecdotes referring to an acquisition or a debate on an interesting or controversial aspect of the specimen – are a vital part of the experience, which could not be brought out by formal labels.

Of particular interest to members was an extensive area of marsh fern around the pond – not often seen in a garden setting, and an impressive specimen of western sword fern, *Polystichum munitum*. Ferns with a particular local connection were *Polypodium australe* [*cambricum*] 'Cambricum Barrowii' found by Mr Barrow on Whitbarrow and, with special personal links, the *Polystichum setiferum* (Ramosum group) 'Robert Sykes', described by Jimmy Dyce as "A wonder to behold." We could only agree.

Johnny's Wood, Borrowdale, Cumbria – 15 July **John Grue**
(Leaders: Ken Trewren & Mike Porter)

On a beautiful summer's morning, eighteen of us met at the National Trust car park at Seatoller (35/245138). Johnny's Wood is an ancient oak wood on difficult bouldery and craggy ground. It has a particularly cool and moist micro-climate as it faces north-east and is within three kilometres of England's wettest recorded spot. Deep beds of leaf mould and bryophytes are common. It is (usually) relatively little grazed, although on this occasion there was very severe grazing evident on all the more accessible, flatter areas. There were several records of pteridophytes that we wished to check, some hoped for guidance on *Dryopteris affinis* and the possibility of some new records as well as the certainty of seeing fine examples of well-loved ferns.

Before we started out, Ken whetted our appetites for rarities by showing us a frond of *Dryopteris* × *deweveri (D. carthusiana* × *D. dilatata)* that he had found at Witherslack the previous evening. There have been no records of this fern from Cumbria since 1970.

Our first special fern in the wood was a handsome specimen of *Dryopteris affinis* subsp. *paleaceolobata*. We were able to compare its crimped pinnules and browner scales with those of a nearby subsp. *affinis*. A short distance on, a fern gave us some doubts. Opinion (amongst those with enough knowledge and/or assertiveness to venture an opinion) was divided between *D. filix-mas* × *D. affinis* subsp. *affinis* and *D. filix-mas* × *D. affinis* subsp. *paleaceolobata*. We agreed that *D.* × *complexa* was an appropriate name. A few metres further on was another interesting and difficult fern, probably *D. affinis* subsp. *borreri*, a new, if unsurprising, record for this tetrad. Nearby were some plants of *Athyrium filix-femina* displaying unusual pinnule shapes. Ken identified this as chewing mite damage, to the disappointment of one or two gardeners.

A foray onto some steep and difficult ground gave us our first *Hymenophyllum wilsonii* (35/253146). This colony was in excellent condition considering the generally dry conditions; we observed the entire indusium. Nearby was a small colony of *Asplenium trichomanes*. The pinnule shape was that of subsp. *quadrivalens*, an unlikely find on this heavily leached acidic substrate.

After lunch, some went unsuccessfully in search of the previously recorded *H. tunbrigense*, which has not been seen for many years. They did find several more small very dry and apparently moribund colonies of *H. wilsonii*, including a more accessible one close to the northern edge of the wood. A wetter summer would facilitate a search. The main party worked back along the crags and was more successful, finding both a clear, although damaged, *Dryopteris expansa* and nearby a very heavily grazed, but almost certain *D.* × *ambroseae*. (Johnny's Wood is one of very few places south of the Scottish border where this fern is recorded.) A final bonus came with the discovery of several patches of *Trichomanes speciosum* gametophytes.

The other ferns seen in and around the wood included *Cryptogramma crispa*, *Blechnum spicant*, *Pteridium aquilinum*, *Oreopteris limbosperma* (some with very strong lemon fragrance), *Polypodium vulgare* on cliffs and as an epiphyte, *Dryopteris dilatata* in profusion, *D. filix-mas*, *D. oreades*, beautiful growths of *Gymnocarpium dryopteris* amongst the boulders and large patches of *Phegopteris connectilis*, some of the best colonies of which draped over a dripping rock-face.

Twenty taxa seemed a good score for the day. But we were due at Nan Hicks' home in Grange for tea and to visit her extraordinary and beautiful garden. As parking close to her house is very difficult, we used the National Trust car park at the Bowderstone (35/252168). As soon as we got out of the cars more discoveries were made. The first was a luxuriant plant of *Dryopteris affinis* subsp. *cambrensis*, another new record. Ken showed us

its characteristics, including its thin, twisted scales: A few metres away was a clump containing (to the confusion of the less taxonomically gifted) plants of *D. filix-mas*, *D. affinis* subsp. *paleaceolobata* and, at an unusually low height for the Lake District, *D. oreades*.

On the bridge at Grange we were pleased to see that the fern colonies had recovered from the pointing of about ten years ago. Additions for the day included *Asplenium ceterach*, *A. ruta-muraria* and more definite *A. trichomanes* subsp. *quadrivalens*. In the village, the display of multiple species of ferns on the café wall was as glorious as ever. We added another taxon to the list with the interesting colony of bifurcate *Polypodium interjectum*, bringing the total for the day up to twenty-five. Now, if we could include the taxa in Nan's paradise garden…

A red-letter day. Excellent leaders, a beautiful wood, new ferns for almost all of us, and a delicious and most welcome tea.

Hutton Roof, Burton-in-Kendal, Cumbria – 5 August **Robert Sykes**

I was last on the summit plateau of Hutton Roof 15 or 20 years ago. Then there were wide areas of open limestone pavement, with classical clints and grykes and plenty of ferny interest. I volunteered cheerfully at the last NW Group AGM to take a party up there. It has changed: the grykes are choked with scrub; there are tracks through but it is no longer possible to wander freely. So I was relieved when Alec Greening suggested we look at the Lancelot Clarke Storth nature reserve, which butts on to the summit area. It belongs to the Cumbria Wildlife Trust, and forms the western flank of the hill. I was privileged to have a reconnaissance with Alec and Charles Dale, the warden.

We approached from the south (34/553763) through an area managed by the Forestry Commission. We climbed through woodland, which had been recently thinned and in part clear-felled. A small crag near the bottom and areas of broken pavement further up furnished the usual limestone pavement suspects: *Cystopteris fragilis* (two or three clumps on the crag), *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *A. ruta-muraria*, *Gymnocarpium robertianum* (very scorched by the recent drought), *Polystichum aculeatum*, also looking rather bleached, and large quantities of *Dryopteris submontana*. In addition there was bracken of course, *Polypodium interjectum* on a tree, a single plant of *Blechnum spicant*, presumably in an acid pocket, *Athyrium filix-femina*, *Dryopteris filix-mas*, *D. dilatata* and *D. affinis* (subspp. *borreri* and *affinis* we thought – *Dryopteris* identification did not flow as confidently as at the previous meeting in Borrowdale, when Ken Trewren was with us).

We stopped briefly at the trig point, but saw none of the spectacular views; this was a day of low cloud. Then we walked downhill through the Lancelot Clarke Storth reserve: it is a mixed habitat of open heath, some woodland, patchy higher up but continuous lower down, and spectacular sheets of limestone pavement, enjoyed by us all, with the exception of Cynthia Kelsall's diminutive and elderly dog. It mattered not that only one species was added to the fern list: Charles Dale appeared like a fairy godmother and showed us a single modest *Asplenium ceterach*. In return we told him of a few fronds of *Cystopteris fragilis*, hiding in a gryke at the top of his patch. We did see the broad-leaved helleborine (*Epipactis helleborine*) and angular Solomon's seal (*Polygonatum odoratum*). The fern of the day for my money was the *Dryopteris submontana*, which was widespread and lush, unaffected apparently by the drought, and for once ungrazed: there are no sheep allowed in the reserve, though cattle are introduced at some times of year.

We dropped off the hill to the village of Dalton (noting crested forms of *Asplenium scolopendrium* and *Dryopteris filix-mas* by the roadside), and the delightful garden of Alec

and Linda Greening. Somehow, in spite of the drought and the time of year, their borders were full of colour and interest. They open the garden for the National Gardens Scheme, a plantsman's garden, and beautiful with it. It is not primarily ferns, but they have an interesting and growing collection – some cultivars, but mainly species, including *Lophosoria quadripinnata* and *Todea barbara*, both doing well out of doors in South Cumbria. They fed us generously. Linda particularly is a skilled propagator, and several of us came away with good things from their plant stall.

Roeburndale, Forest of Bowland, Lancashire – 9 September — Roy Copson

Bathed in late summer sunshine, we commenced the day at the top road on the eastern edge of Whitmoor (34/601652). From here the woodland canopy of Roeburndale could be seen stretching south to north below us. The three peaks of Ingleborough, Whernside and Pen-y-ghent dominated the far horizon.

After a short walk via Back Farm we entered woodland on the western edge of Roeburndale. We negotiated a stepped footpath that traversed the valley side until reaching open ground below. The valley side was steep and eroded from the woodland edge to the footpath beneath, with scattered small ferns. Lower down the fern population had a greater density and size. Scaly male ferns (*Dryopteris affinis* group) appeared to be the most numerous, together with *D. filix-mas*, *D. dilatata*, *Athyrium filix-femina* and *Pteridium aquilinum*. On leaving the woodland we entered rough pasture, a patchwork of hillocks, bracken and rushes punctuated by the eye-catching reds of hawthorn and rowan, and purple, blue and black of elderberries. The stony track snaked down to the River Roeburn and along the way we found *Pteridium aquilinum* in spore, a not-so-common event for this fern, and not often seen by any of us. Further on, at the top of an almost vertical wet embankment, was *Oreopteris limbosperma* with skirts of dead trailing fronds forming a thatch a metre high in places, evidence of many years of growth.

Eventually we reached the river. There was almost no vegetation on the eroded bank except for some adventurous brambles and a solitary *Asplenium scolopendrium* on its dark precipitous surface. We crossed the footbridge, passed through Backbottom orchard and into Outhwaite Woods. An embankment at the side of the path consisted of tree boles with exposed roots, boulders and some retaining wall that contained *Asplenium adiantum-nigrum*, a rare fern in this part of Lancashire, as well as *A. trichomanes* subsp. *quadrivalens* and *Polypodium vulgare*. There was also *Dryopteris dilatata* growing epiphytically on a tree bole in a medium of decaying wood and humus, and finally one young *Polystichum aculeatum* amongst the rocks. We then followed a path along the bottom of the eastern slope. The fern flora here was interesting and varied with regard to the number and combination of species present at any given location and included *Blechnum spicant*, *Phegopteris connectilis*, a fine stand of *Polystichum setiferum* (also rare this far north), *Dryopteris filix-mas* and *Athyrium filix-femina*. We stopped for lunch and returned via the outward route, concluding the day by musing on the day's proceedings at Bridge House Farm tea rooms in Wray.

Annual General Meeting, Holehird, South Cumbria – 14 October — Robert Sykes

Another successful day. The weather was superb – ideal for looking round the garden and revisiting the National Collection of polystichums – and we were privileged again to have two excellent speakers.

I invited Heather McHaffie to talk about equisetums, having heard her on the subject at the Edinburgh meeting in 2002. She gave a very clear account of the British species, illustrated by excellent slides, drawings showing the critical features of each species and

crib sheets to take home. No excuse then next time. And she came bearing gifts, some from her own garden for our plant stall, and, courtesy of the Royal Botanical Garden Edinburgh, *Woodsia ilvensis*, and some marvellous plants of *Thyrsopteris elegans*, all of which found eager and grateful homes. She also brought a fine *Blechnum cycadifolium* to illustrate the next talk, with strict instructions to take it back – sadly, they are not available for sale.

Martin Rickard talked about his visit to Isla Robinson Crusoe in the Juan Fernandez Islands off the coast of South America. This was a most enviable adventure, marred only by getting badly sunburnt during the boat trip round from the airstrip at one end of the island to the little town of San Juan Bautista at the other. He had some excellent slides of this beautiful island and of the local fern flora. Pre-eminent among them were some *Lophosoria quadripinnata*, so large it was impossible to photograph them properly in forest conditions, exquisite *Thyrsopteris elegans*, and enormous *Blechnum cycadifolium* with thick rhizomes trailing along the forest floor.

After that the AGM was an anticlimax, but there is a significant change: Peter Campion is taking over as secretary of the Group, with grateful thanks and heartfelt offers of help from the rest of us.

Frances Haigh set the competition, which was won by Jim Adams. Two fern classes were judged by Martin Rickard: Michael Hayward and Julia Wilkins were the winners.

Our grateful thanks to the speakers, and to all the unsung heroines (as they mostly are) who contributed to this enjoyable day.

BOTANICAL CORNWALL GROUP

Ian Bennallick

As with 2005, 2006 again saw a varied selection of field meetings covering all parts of the county, with an emphasis on visiting farms where permission had been given. The following is a brief rundown of the more notable fern records on meetings.

Kilminorth Woods, and near Sowden's Bridge, near Looe – 19 April

This meeting was organised to search for *Hymenophyllum tunbrigense* at two sites where it had not been found since 1985. Dr Francis Rose had recorded the species from Kilminorth Woods, near Looe, in 1985, and it was surprising that there had been no visits to try and refind the plants. With a little knowledge of what it needs - high humidity and low competition from other species, five members of the group walked from Looe, westwards along the footpath through sessile oak (*Quercus petraea*) woodland to search for suitable habitats. In Cornwall it is typically found associated with small rocky outcrops, so we aimed to search those marked on the 1:10,000 map. Not far along, at 20/242542, a large north-facing rocky outcrop in the woodland several feet up the slope was investigated and sure enough, a small patch of the fern was found. Despite the very dry winter and spring, it was looking healthy. Other outcrops were searched but no other populations could be found.

We then had a look around the Sowden's Bridge area (20/2355 & 20/2354), where Jean Paton had seen *Hymenophyllum tunbrigense* in 1962. T.Q. Couch first recorded it for 'Trelawny Mill' in 1849, and this site was close enough to Jean Paton's site to be possibly the same one. However, despite suitable looking woodland near the West Looe River, both upstream and downstream in some of the most picturesque scenery, none could be found. However, we did see many of the typical species one would encounter in this area, with some fine *Dryopteris affinis* (including subspp. *affinis* and *borreri*), *Polystichum setiferum* and *Blechnum spicant*.

Trevigue, near Crackington Haven (20/1395 & 20/1495) – 10 May

Five members met at Trevigue, a farm situated on the dramatic north Cornish coast near Crackington Haven. This farm won a Farming and Wildlife Advisory Group conservation award and the owner, Frances Crocker, has done much to enhance the wildlife of the farm – see www.north-cornwall.co.uk/client/Trevigue/index.html. Five members met in very misty but warm conditions and followed footpaths into a steep, wooded valley inland where wet woodland and small streams made for very humid and sheltered conditions. Along the stream bank in the wood some very fresh fronds of *Dryopteris aemula* were admired at 20/140950 and this made a very tranquil lunch stop. In the wet woodland we found some *Osmunda regalis* at 20/140949 and 20/139954, a fern one always expects to be in this type of woodland in Cornwall. A lot of *Athyrium filix-femina* and *Dryopteris dilatata* lined the banks and path sides, with *Dryopteris affinis* (including subspp. *affinis* and *borreri*), *Asplenium scolopendrium*, *Polystichum setiferum* and *Blechnum spicant* all common. Surprisingly, we didn't find any *Equisetum* species in the wetter woodland areas, but a return visit may add these.

Coast West of St Ives – 28 May

Six members met at the small car park at Trevalgan Hill at 10/487395 and walked along the small granite-walled lanes towards the spectacular coast west of St Ives. These Cornish hedges are excellent places to find *Asplenium obovatum* subsp. *lanceolatum*, and several plants were found near Trevessa Farm 10/481397. Along the coastal path, through maritime heath and grassland along Trevalgan Cliff, we found some *Blechnum spicant*, *Equisetum arvense* and, in a boggy area dominated by purple moor-grass (*Molinia caerulea*) and black bog-rush (*Schoenus nigricans*), some *Osmunda regalis* at 10/489408. At Trowan Cliff some more *Asplenium obovatum* subsp. *lanceolatum* was found around a granite outcrop at 10/495409. With the continuing dry spring, the plants were obviously suffering from lack of any available moisture; the fronds were curling and brown.

An exploration of Pen Enys Point added *Asplenium marinum* to the list (10/492411) and more *Osmunda regalis* in another typical Cornish habitat – the coastal flush – at 10/493408. It is always worth looking for native colonies of *Adiantum capillus-veneris* around the Cornish coast, but they usually grow in some inaccessible places. A possible colony at the Point was viewed with binoculars but turned out to be nothing more than algae and moss! Overall it was a lovely day enhanced by the pleasant weather, wonderful sea views, good walking and excellent plants.

Browda, near Linkinhorne (20/3071 & 20/3072) – 17 June

Meeting on one of the hottest days of the year (in Cornwall at least), five members met at Browda Farm with permission of the landowner to survey his farm on the banks of the River Lynher in east Cornwall. Though not expecting to find any ferns of great interest, the farm holding had a diverse range of habitats. *Asplenium trichomanes* subsp. *quadrivalens* was found on walls around the farm buildings. Most surprisingly, some *Dryopteris carthusiana* plants were found in Browda Wood at 20/306719 in wet woodland with some old plants of greater tussock-sedge (*Carex paniculata*) and marsh violet (*Viola palustris* subsp. *juressi*). It was growing with *Dryopteris dilatata*, so possible hybrids between the two (*D.* × *deweveri*) were searched for but not found. This is only the second record for *D. carthusiana* in 20/37, and though scattered throughout Cornwall and never common, it is possible that both the species and the aforementioned hybrid have been overlooked. The wet wood had recently been partially drained with a large ditch, though the area had a history of mine working and could formerly have been a more open area with various ditches and spoil heaps.

SCOTLAND

Frank McGavigan

Strathblane and Bearsden, Glasgow – 18 March

(*Participants*: Ashleigh Davies, Adrian & Janet Dyer, Mary Gibby, Tim Godfrey, Frank Katzer, Frank McGavigan, Heather McHaffie, Duncan McLeod, John Mitchell, Christine Nicholson, Alex Storie, Jamie Taggart, Mike Taylor, Alastair Wardlaw, Maurice Wilkins.)

There is always a worry at the first meeting of the year that there will not be any ferns visible, so we were pleasantly surprised to find a total of 17 species in the wild at Strathblane. Admittedly several were only the shrivelled remains of last year's fronds but with so many experts among us identification was straightforward.

We began at 26/556796 and took the track towards the wonderfully named Cantywheery at the foot of the Campsie Fells. We soon spotted *Dryopteris affinis* (still green) and *D. dilatata* on the banks of a burn. Further up, the track crosses one of the pipes carrying water from Loch Katrine to Glasgow and there are extensive Victorian stone-built water-works where inevitably we found *Asplenium ruta-muraria* and *A. trichomanes* subsp. *quadrivalens* in the lime mortar. Along the track were ferns with a preference for more acid conditions – *Blechnum spicant*, *Oreopteris limbosperma* (identified in its dead condition from the tapered shape to the base of the fronds), *Dryopteris filix-mas*, and of course *Pteridium aquilinum*.

Here and there are outcrops of calcareous rock. We found *Cystopteris fragilis* at the base of one and unusually, *Asplenium trichomanes* subsp. *quadrivalens* growing in another. Further on Alastair led us off the main track into a wooded glen where *A. scolopendrium* flourished along with several plants of *Polystichum aculeatum* and a single plant of *P. setiferum* (a new find for this area according to John Mitchell). We added *Athyrium filix-femina* to our tally and also *Polypodium vulgare* in a tree.

Believe it or not we then climbed a ladder to rejoin the main track back to Strathblane for a pub lunch. Afterwards we made a short detour to visit a thriving colony of *Asplenium ceterach* on a decayed, roadside wall at 26/562787. We hoped that the roads department's enthusiasm for 'improvement' would not destroy this local rarity.

The afternoon was spent at Alastair Wardlaw's garden in Bearsden, where there is never the possibility of not seeing ferns. Alastair had thoughtfully provided us with a list of some 50 species, not including cultivars, which had come through the winter in reasonable condition in the open – *Adiantum venustum*, *Blechnum magellanicum*, *Cheilanthes lanata*, *Dryopteris sieboldii*, *Lophosoria quadripinnata*, *Polystichum vestitum*, *Todea barbara*, *Woodwardia unigemmata*, to name just a few. In addition he had listed another 38 species that he protects from differing levels of frost in various enclosures, e.g. *Asplenium marinum*, *Cyathea smithii*, *Pellaea rotundifolia*, *Adiantum reniforme*, etc. It is impossible to mention everything here. All I can say is that there can hardly be another garden in Britain, public or private, with such a wide representation of the world's hardy and semi-hardy fern flora. Do not miss out on any opportunity to visit.

We moved indoors to a sumptuous tea prepared by Jackie Wardlaw and a slide-show with presentations from Alastair on the hardiness of *Dicksonia antarctica* at RBGE, from Heather on her visit to fern rarities of the Channel Islands and, worryingly, the decline, due to lack of winter snow cover, of the *Athyrium distentifolium* and *A. distentifolium* var. *flexile* colonies she has been studying for years in the Scottish mountains, and from Adrian on some of the ferns encountered on his recent trip to Brazil. And the highlight of the day? I would like to have chosen a fern but for me it had to be Jackie's cheese scones!

Argyllshire – 3-4 June

(*Participants*: Tim Godfrey, Stephanie Griffin, Ian Lewis, Andrew & June Manwell, Frank & Linda McGavigan, Chris Nicholson, Maurice Wilkins.)

Primroses, purple spotted orchids, carpets of bluebells, the golden scales of emerging *Dryopteris affinis* set off against their lime-green fronds: Argyll in early June. Add clear skies and sunshine and we were in paradise. Even the midges were subdued, saving their worst for unsuspecting tourists the following month.

We began our weekend south of Oban at Arduaine Garden (National Trust for Scotland) (17/796104) where Maurice Wilkins has been planting out many exotic ferns that might not be hardy further inland. Most surprising was a veritable grove of *Thyrsopteris elegans*, which had come through the winter completely unscathed. A few plants that showed some withered fronds had actually been planted in the spring, the damage done by drought in the greenhouse not frost outdoors. Among the other ferns, mostly new to us, were *Stegnogramma pozoi*, *Dryopteris bissetiana*, *Arachniodes webbianum*, *A. standishii*, *A. simplicior*, *Polystichum yunnanense*, *Araiostegia parvipinnata*, and *Dryopteris lacera.* It seems a pity to list only ferns as Arduaine is packed with many beautiful and rare flowering plants and trees, all expertly maintained by Maurice and his team. Make the effort and visit.

In the afternoon Maurice took us to a secluded part of the coastline just near the garden. Here we had the chance to study *Dryopteris affinis* closely and using James Merryweather's handy Key to Common Ferns we decided we were looking at both *D. affinis* subsp. *affinis* and subsp. *borreri*, but to be honest we were not sure. We had no doubts about *Pteridium aquilinum*, *Blechnum spicant*, *Phegopteris connectilis*, *Gymnocarpium dryopteris*, *Athyrium filix-femina*, *Dryopteris filix-mas*, *D. dilatata*, *Polypodium vulgare* and *Oreopteris limbosperma*, all of which were in the vicinity. Tim found some filmy fern and was pretty certain it was *Hymenophyllum wilsonii* (the indusia were not quite developed enough to be sure) but he was positive about the signs of otters in the neighbourhood. Later, under an overhang that must have had some lime seepage, we found *Asplenium adiantum-nigrum*, *A. trichomanes* subsp. *quadrivalens* and *A. scolopendrium.* We lingered, soaking up the evening sun before tearing ourselves away to have dinner together at the excellent Kilmartin Museum Restaurant.

Sunday morning saw us at Taynish Nature Reserve (16/739868), just south of the yachting haven of Tayvallich. It had been suggested that we follow the Woodland Trail, which for pteridologists seemed pretty tame but the advice turned out to be sound as we hardly needed to leave the path to encounter ferns in profusion – *Dryopteris dilatata*, *D. filix-mas*, *D. affinis* (this time we were confident the one we studied was subsp. *cambrensis*), *Athyrium filix-femina*, *Oreopteris limbosperma*, *Pteridium aquilinum* and what was that one with the crispy fronds? Of course, *Dryopteris aemula.* Again with the help of the Merryweather Key we identified *Dryopteris carthusiana* (upright, creeping rhizome, fronds facing in random directions). We puzzled over some that were not quite *D. carthusiana* and not quite *D. dilatata* and decided they had to be the cross between the two, *D.* × *deweveri.* An old corn mill was festooned with *Asplenium trichomanes* subsp. *quadrivalens* on the outside and with *Cystopteris fragilis* on the inside. Tim again found filmy ferns: this time *Hymenophyllum tunbrigense. Asplenium adiantum-nigrum*, *A. scolopendrium*, and *Polypodium vulgare* completed our haul. This is such a rich site that there are bound to be other species but we could not do it justice in the limited time we had available.

We had an appointment at Crarae Garden (another Argyllshire must-visit gem, south of Inveraray, 16/985975) with Jason Copestick who was to take us into the Forest Garden, not normally open to the public. This is an area of some 75 acres where plots of different tree species had been planted between the 1930s and '70s as a gigantic forestry

experiment. Neglected since then, the area is home to many native fern species, including enormous *Blechnum spicant* that looked almost tropical, lots of oak fern and beech fern, a clump of which exhibited multifid fronds (a rarity none of us had seen before), some beautiful *Polystichum aculeatum*, and many of the other ferns we had seen all weekend. We had hoped to see filmies but Jason said that their location had become too treacherous for a party of visitors and indeed some of the wooden bridges we had to cross were in a dilapidated condition. If and when the National Trust for Scotland can find the money this area will be redeveloped, which in a way would be a pity as in its wild state it is so magnificent, but on the other hand a fern garden is being proposed. The garden proper, set round a ravine, has a number of cultivated ferns, as well as containing some wonderful rhododendrons. We noticed *Dryopteris wallichiana*, *Blechnum chilense*, *Onoclea sensibilis*, and right at the entrance a stately patch of *Osmunda regalis*.

Then, just as we were leaving for home, Andrew presented each of us with a fern print, produced by a method he has invented, the main components of which seemed to consist of paint sticks, linoleum, fern fronds and a printing press, but the results were impressive. They will serve as fitting reminders of a superb weekend fern foray.

Inverarnan, Falls of Falloch and Glen Ogle, Perthshire – 8 July

(*Participants*: Chris Bierley, Grant Fortune, Tim Godfrey, Frank Katzer, Ian Lewis, Frank McGavigan, Heather McHaffie, Douglas McKean, Mike Taylor, Alastair Wardlaw, Wim de Winter.)

As the last count was in 2003, Heather had roped us in again to help monitor the population of *Lycopodiella inundata* at Inverarnan on Lochlomondside (27/313185), where there are two main sites close together. At the first we struggled to find the profusion of plants that we had noted previously. Without cattle-grazing and trampling, the grass appeared lusher and it seemed the *Lycopodiella* was being out-competed, or had the late spring had a detrimental effect? But the second site yielded a plentiful supply of plants, and later examination of photographs of the 2003 visit showed the grass to be just as lank. Total numbers were certainly down but compared favourably with a 1999 count, so the variation may be due to natural fluctuations rather than any long-term decline. Then of course the question arises of the accuracy of our counting methods (you always have to make a judgement about what constitutes a separate plant) but a second visit by two of us a few weeks later convinced us that we had got it about right. Heather will want to continue monitoring at regular intervals and no doubt the Scottish BPS group will again brave the midges and rain to help out.

Then, as last time, we went on to the Falls of Falloch (27/337208) where the rain was heavier and the midges hungrier – minor irritations to the enthusiasm of our team. This is a beautiful ferny spot where we found *Athyrium filix-femina*, *Blechnum spicant*, *Dryopteris affinis*, *D. dilatata*, *Oreopteris limbosperma* and *Pteridium aquilinum*, all in abundance. Less prolific, but not too difficult to find, were *Gymnocarpium dryopteris*, *Hymenophyllum wilsonii*, *Phegopteris connectilis*, and, on the other side of the river, *Polystichum aculeatum*.

A short drive took us to another favourite haunt – the old railway line in Glen Ogle, now a cycle track. Starting at 27/558283, we first went to the shores of Lochan Larig Cheile where Heather found a washed-up quill of *Isoetes lacustris* and pointed out *Equisetum palustre*, which, tested by her famous 'twiddle' test, has much less angular branch sections than *E. arvense*, which was also present. Douglas pointed out the northern marsh orchid. (He had earlier at Inverarnan identified the spotted heath orchid and the much rarer, diminutive bog orchid – *Hammarbya paludosa*.)

Back on the track, our tally of ferns soon mounted up. Apart from the, for us, common ones – *Athyrium filix-femina*, *Blechnum spicant*, *Oreopteris limbosperma*, *Dryopteris filix-mas*, *D. dilatata*, *D. affinis* (in this case subsp. *affinis*), and the ubiquitous *Pteridium aquilinum* – we found beside the old railway track *Cystopteris fragilis*, *Gymnocarpium dryopteris* and *Phegopteris connectilis*. On the man-made cuttings and viaduct walls *Asplenium viride* was common, along with *A. trichomanes* subsp. *quadrivalens*, *A. ruta-muraria*, *A. adiantum-nigrum*, *Polypodium vulgare*, *P. interjectum* (although there was the usual argument about this one), and below the viaduct there was *Polystichum aculeatum*.

This was a more than respectable tally and the easily accessible Glen Ogle track surely makes for a good stopping-off point for any fern-loving visitor to Scotland. Wim de Winter, a pteridologist from Holland, who was with us for the day, certainly seemed happy.

Coire Ghamhnain (27/285335), North-West of Tyndrum, Argyllshire – 29 July

(*Participants*: Roger Golding, Frank Katzer, Andy MacGregor, Frank McGavigan.)

On the recommendation of John Mitchell, who conducted a *Woodsia* survey in Scotland in the 1970s, we went hunting for *Woodsia alpina*, approaching the site from Glen Orchy in the north as access from other directions is blocked by forestry. Even so we had to find our way through forest breaks and thick stands of *Pteridium aquilinum*, though it was nice to see along the way that most delicate of horsetails *Equisetum sylvaticum*, and the equally elegant, if rather common, *Oreopteris limbosperma*.

Away from the forest, as the slopes steepened, we found in the scree *Dryopteris oreades*, and later, *D. expansa*, as well as *D. dilatata* and *D. affinis* subsp. *cambrensis*. Here too were *Phegopteris connectilis* and *Gymnocarpium dryopteris*, and occasional tufts of *Huperzia selago* and *Selaginella selaginoides*.

Higher up, the cliffs are composed of quartzite (in a very loose and friable condition), not at all the substrate where you would expect to find the calcicole *Woodsia alpina*, but there are sufficient other lime-loving plants to indicate that there must be seepage from basic rock underneath – *Asplenium trichomanes* and *A. viride* (growing on the ground beneath the cliff as well as on the cliff itself), *Cystopteris fragilis*, *Polypodium* sp. and *Polystichum lonchitis*.

For the *Woodsia alpina*, John Mitchell had provided us with a detailed map and a photographic montage of the site so it was not difficult to find the plants previously located, though, after the hottest July on record, most of the tufts were in a rather desiccated condition. We noted 13, though there may well have been others too dried up to be visible. John had recorded 11 tufts in 1977 (another dry year), 16 in 1976, and 22 were reported in 1985. There is always a discussion about what constitutes a separate tuft, so the counts in different years by different people may vary even without taking into account environmental factors.

photo R. Golding

***Woodsia alpina* in Coire Ghamhnain**

We noted the profusion of calcicolous flowering plants – northern bedstraw, alpine saw-wort, moss campion, purple saxifrage and mountain sorrel to name a few. Then came the surprise find of the day when Frank Katzer spotted on the cliff a patch of *Hymenophyllum*

wilsonii. At first we thought it was *H. tunbrigense* – now that really would have been a find – but it was still a surprise to see filmy fern at that altitude (629 metres). My GPS gave a location of 28488-33525 (accurate to ten metres) for those who fancy a scramble.

We explored a few likely looking gulleys for *Cystopteris montana* without success before climbing on to the ridge, where we found *Diphasiastrum alpinum*. During the walk back to the cars, apart from noting *Athyrium filix-femina*, we passed an alder with an epiphytic rowan that had grown so large that the two together created a huge canopy of mixed alder and rowan leaves – a natural crown to a successful day.

Roslin Glen (36/275631), Midlothian – 9 September

(*Participants*: Adrian Dyer, Frank Katzer, Frank McGavigan.)

Commitments elsewhere kept many of our regulars away, but they missed a beautiful day, if on familiar territory just south of Edinburgh. There is a recognised circuit for pteridological enthusiasts in the Glen, well away from *The Da Vinci Code* fanatics who cluster in ever-increasing numbers round Rosslyn Chapel. Passing an old wall with some fine *Asplenium ruta-muraria*, the first stop is the old castle from which sprout some magnificent clumps of *A. trichomanes* (presumably subsp. *quadrivalens*, though too far out of reach to confirm). *A. scolopendrium* is also present and probably has been for centuries as it is clearly represented in the elaborate carvings in the Chapel. Further down, in the seepage from the old castle walls, grows *Polypodium interjectum* (oval sori, pinna margins slightly serrated). Later we were to find *P. vulgare* (circular sori, pinna margins unserrated), epiphytic on a fallen log.

The fern flora in the Glen itself is dominated by *Dryopteris dilatata* and *Athyrium filix-femina*, interspersed with *Blechnum spicant*, *D. filix-mas* and *D. affinis* (we agreed not even to attempt to decide which subspecies), and in the less shaded parts, *Pteridium aquilinum*. There is a single patch of *Gymnocarpium dryopteris* by the path on the north bank (although later we found lots of it on the south side) but no beech fern that we could see. One isolated plant of *Oreopteris limbosperma* has appeared recently slightly upstream from a clump that was washed away by a landslip about a decade ago, and is presumably a sporeling from that earlier plant. *Polystichum aculeatum* is present (and we found more on the south bank) and a single plant of *P. setiferum* that grows under a laurel bush near the old garden, which made us wonder if it was a naturalised escape. We also found a *Polystichum* that might have been a hybrid between the two.

Equisetums are represented by *E. arvense*, a patch of *E. hyemale* (once used, perhaps, as a scourer in the castle kitchens), and a huge haze of *E. telmateia* fed by seepage from above. It is worth a visit to Roslin for this alone. Surprisingly perhaps, that other beauty of the family, *E. sylvaticum*, does not appear to be present.

However, our main intention on this visit was to explore the caves on the south side of the river for *Trichomanes speciosum* gametophytes. But first we had to cross the river: it looked too deep and dangerous, but fearless Frank Katzer plunged in and showed that it was not as treacherous as first appearances had made out. Unfortunately, what seemed like deep caves from the north side turned out to be mere hollows and surprisingly dry. We found no trace of filmy ferns of any kind – a bit of a disappointment, but at least it added to our knowledge of the fern flora of the Glen. The Glen is not totally dry – there are extensive nurseries of *Dryopteris dilatata* and *Blechnum spicant* gametophytes – but compared to an equivalent glen in the west of Scotland, Roslin is positively arid.

Later we took a trip to Soutra Hill (36/465595). Here in a field beside a lay-by on the A68 can be found *Botrychium lunaria* – well, I say "can be found", but this being September any trace had long disappeared, as, in the words of Chris Page, "shoots start to die down from early summer." Lesson: do your homework before, not after, a field trip.

Group of European Pteridologists (GEP) Excursion

Madeira – 14-20 April

Pat Acock

By way of a change this year, the GEP visited one of the Macaronesian Islands, Madeira. Many European pteridologists have visited this beautiful fern-rich island since the late 1940s. This comes across in Benl's article in *The British Fern Gazette* of 1971 entitled 'Fern Hunting in Madeira'. Each time people visit, more knowledge is accumulated and more excitement seems to be engendered in the up-and-coming pteridologists. Although we had a good number of participants, the countries represented this year were slightly diminished, being restricted to France, Britain, Belgium and the Netherlands. We visited some of the classic fern sites as well as exploring other areas.

Going west from Encumeada, we found *Asplenium lolegnamense* much higher than it had been recorded before. Going east from Encumeada, just as the back markers were about to turn back Henri Michaud and friends announced that they had found copious quantities of *A. anceps* along with *Polystichum* × *maderense* about five minutes back up the trail. The ferns were worth seeing but Henri's distance judgement was not so good! We were able to re-find *P. drepanum* in the site where we thought it had disappeared. On our return home we learned that the four young French pteridologists who had stayed on an extra day had found at least four more plants in a ravine close to the hotel. It is good to know that this endemic species is now known from a few more sites, which augers well for its survival.

One night on the way back to our hotel we went to a site that we knew had *Deparia petersenii*. Surprisingly, this plant, which is becoming a pernicious weed on many islands and in tropical places, had succumbed to the other vegetation and was no more. However, in scouting around for further plants, we found some additional sites for *Asplenium aethiopicum* and spotted the largest plant that I had ever seen.

On Pico do Arieiro we found a lot more colonies of *A. septentrionale* than any of us had seen on previous visits. In the rain on the Levada do Norte I could not re-find the two plants of *Polystichum* × *maderense* that I knew of, but Andrew Leonard did manage to re-find the one that he had discovered whilst searching for 'mine' on another occasion.

On the last day we took the group to see *Asplenium lolegnamense* at Serra de Água. After lunch there was a democratic decision to visit one of the southern levadas, something I had never done in four previous visits to the island. After walking between houses we eventually came to walls with *Cheilanthes maderensis* and *Asplenium aethiopicum* on them – a fine end to the tour.

If a lot of people came on GEP meetings management of the group would be difficult and we would almost certainly have to restrict numbers. However, it is hoped that a few more will join us on these excellent excursions, which are well led by Ronnie Viane and local pteridologists. Each year we experience the most wonderful camaraderie, find exciting ways of breaking down the language barriers and have fantastic discussions during and after dinner.

In July 2007 we will explore the Krkonoše Mountains on the borders of Poland and the Czech Republic. If you are interested in joining the GEP annual excursion please contact Prof. Ronnie Viane, Dept of Morphology, Systematics and Ecology, Section: Pteridology, K.L.Ledeganckstraat 35, Gent, B-9000 Belgium. E-mail: Ronnie.viane@ugent.be; Tel & Fax: +329-2645057.

Asplenium lolegnamense

HORTICULTURAL SHOWS

SOUTHPORT FLOWER SHOW – 17-20 August

M. Hayward

The competitive classes for ferns were introduced to the Southport Show in 1928, four years after the founding of the show. From the start BPS members have been the main supporters of the competition, as recorded in the Fern Gazette from 1928 onwards. In 1952 the show committee asked the BPS, and other societies, to provide stands to promote their societies, and the Amateur Societies Tent has been a popular feature at Southport ever since, supported by the BPS without a break. Foreign ferns were initially excluded from both the competitive displays and the stand, the 'British' in BPS being interpreted very narrowly, but with Matt Busby's influence these restrictions were gradually reduced.

The theme set for the show this year was 'Water'. In response, we assembled an exhibit of floating and marsh ferns, including *Azolla filiculoides*, *Marsilea crenata*, *M. drummondii*, *Salvinia molesta*, *Ceratopteris thalictroides*, *Microsorum pteropus*, *Pilularia globulifera*, *Dryopteris cristata*, *Thelypteris palustris*, *Woodwardia areolata* and *Equisetum variegatum*. The 'Water' theme provided an ideal opportunity to pursue my policy of expanding the variety of ferns displayed and exhibited, and provided a good conversation piece for visitors to the stands. As usual we had a large photographic display as background to the stand and a display of propagation methods that proved popular with the visitors.

Heavy rain reduced the number attending the show from the first evening onwards but we had a steady stream of visitors to the stand on all days, with a number of enquiries about membership. The FSC Key to Common Ferns again sold particularly well.

photo: M. Hayward

Southport Flower Show 2006

Harvey Shepherd, Joan Hindle, Rita Hardman, Ann Gill

The number of exhibitors in the competitive classes remained small but a couple of visiting members have promised to exhibit next year! In 1928 entrants to the main class (seven of them, from as far afield as southern England and Scotland) had to fill 100 sqare feet with

British ferns. The classes today are less demanding as well as more varied. Showing a wide variety of interesting ferns is an excellent way of stimulating public interest in fern culture, which members should support. The prize-winners are listed below.

Class 7 Individual Championship: Four Hardy British Ferns (dissimilar), two Greenhouse Ferns (dissimilar) and two Foreign Ferns Hardy in Great Britain: 1st B. Russ, 2nd M. Hayward, 3rd I. Rawson (3 entries)

Class 8 Three Hardy British Ferns (distinct species, not varieties): No award (1 entry, not as schedule)

Class 9 One Foreign Fern Hardy in Great Britain: 1st B. Russ, 2nd O. Fairclough, 3rd M. Hayward (3 entries)

Class 10 Three *Polypodium* (3 distinct varieties): (no entries)

Class 11 Three *Polystichum* (3 distinct varieties): (no entries)

Class 12 Three *Athyrium* (3 distinct varieties): (no entries)

Class 13 Three *Asplenium* excluding *A. scolopendrium* (3 distinct varieties or species): 1st M. Hayward (1 entry)

Class 14 One British Fern (any genus or variety): 1st I. Rawson, 2nd M. Hayward 3rd O. Fairclough (3 entries)

Class 15 One Greenhouse Fern: 1st D. Abbott, 2nd H.J. Abbott, 3rd D. Vose (5 entries)

Class 16 Three *Asplenium scolopendrium* (3 distinct varieties): (no entries)

The BPS cup for the Individual Championship was won once again by member Brian Russ. The Happiland Trophy for the most points in all other classes went to Michael Hayward. The judge was Dick Hayward.

I would like to thank Ruth Berry, Ann Gill, Rita Hardman, Joan Hindle, Trevor Piearce and Harvey Shepherd for manning the stand, and Patrick Acock, Yvonne Golding and Alastair Wardlaw for providing plants. We again had a social evening at my house in Blundellsands after the show.

The dates for next year's show are 16-19 August 2007. We would encourage members within travelling distance to come and see what surprises we shall have on display. Or why not join us on the stand and get your entrance to the show free! You also get a complimentary ticket to the show if you exhibit in the competitive classes. If you are interested in showing ferns, either contact M. Hayward (6 Far Moss Road, Blundellsands, Liverpool L23 8TQ; mhaywardL23@blueyonder.co.uk) or obtain details of the schedule direct from the organisers at www.southportflowershow.co.uk.

SECRETARIAL NOTES

Please note: *names and contact details of all officers can be found on the inside of the front cover of this* Bulletin.

NEW GENERAL SECRETARY: Yvonne Golding

ANNUAL GENERAL MEETING 2007 – The 104th AGM will take place on Saturday 24th March 2007 at Royal Botanic Garden Edinburgh, Inverleith Row, at 14.00 hrs.

NEW COMMITTEE SECRETARY: Graham Ackers

COMMITTEE VACANCIES – In accordance with paragraph 3, section 3 of the Society's Constitution, six vacancies will occur on the Committee. Nominations are invited from Society members to fill these vacancies at the Annual General Meeting in 2007. The names of the nominees, proposers and seconders, together with a letter from the nominee indicating

his or her willingness to serve, should reach the Committee Secretary before the AGM. Members with a potential interest in serving as an elected Committee member and who wish to know more of the duties and responsibilities are invited to contact the Committee Secretary.

NEW MEMBERSHIP SECRETARY: Mike Taylor

SUBSCRIPTIONS 2007 – Members are reminded that subscriptions were due on 1st January 2007 and should be paid to the Membership Secretary. Cheques should be made payable to 'The British Pteridological Society'. Current rates are given inside the front cover of this issue. Payment can be made by **Credit Card** – see renewal form. **Standing Order** forms are printed on the reverse of renewal forms and are also available from the Membership Secretary and the BPS website (www.eBPS.org.uk). Standing Orders may be paid on 1st January or 1st February. In either case, membership is deemed to be from 1st January to 31st December.

Members are reminded that according to Clause 11 of the Constitution "Any member failing to pay their subscription within six calendar months of its becoming due shall be liable to have their name removed from the List of Members of this Society"! Defaulting members who do not amend their Standing Orders with their bank and are still paying at the old rate shall be notified that they will not receive the Fern Gazette until such time as their Standing Orders are updated. Members still paying even earlier rates shall be notified that their name will be removed from the Membership List until such times as Standing Orders are updated or cancelled. Any monies received from old Standing Orders will be treated as a donation.

GIFT AID – Since 2003 the BPS has been a registered charity. This enables us to claim back from the Inland Revenue 28p for every pound paid in the annual subscription for each member who authorises us to do so. Since 2003, increasing numbers of members have authorised us to claim Gift Aid on their behalf, and last year (2006) we were able to claim for 206 members, which brought in £1,118.88. While this is obviously an extremely valuable addition to the Society's annual income, it could be considerably more. There are probably a further 200 members on whose subscriptions the Society could claim Gift Aid if these members authorised it and this could lead to perhaps another £1,000 per annum. All that is required is a minimal amount of form filling (about one minute) and a second class stamp. **Even better, the form has only to be filled in once.** The forms are retained by the Gift Aid Secretary and the same ones used year after year to make the claim.

The small number of provisos is set out below:

1. Gift Aid is available only to members who reside in the UK.
2. Members on whose subscription Gift Aid is claimed must be paying income tax or capital gains tax at least equal to the amount claimed.
3. Members whose subscriptions are allowed as an expense in connection with their employment may not claim Gift Aid.

If the Inland Revenue allows us to claim relief on your membership subscription please authorise us to do so. It's the equivalent of a yearly £5 donation to the Society.

DIRECT DEBIT – The Society does not offer a Direct Debit facility for subscriptions. The reasons are two-fold. Expensive software is required to create a direct debit tape to send to the bank and is too expensive for a small Society like the BPS. With Standing Orders the bank does all the administration, whereas with Direct Debits a considerable additional workload would fall on the Society, in particular the Treasurer, and it is necessary to bear in mind that all officers offer their time and services on a voluntary basis.

E-MAIL ADDRESSES – These are now published, as agreed, "for members who have a relatively stable e-mail address and who keep up-to-date with their messages". A supplementary list and amendments are published in this *Bulletin*. Members who wish to have their e-mail address added, changed or removed are requested to inform the Membership Secretary by E-MAIL: Membership@eBPS.org.uk.

NOTIFYING CHANGES OF ADDRESS – Please inform the Membership Secretary of changes of address and telephone number. He will be responsible for notifying any other officers and appointees who need to know.

PUBLICATIONS BY AIRMAIL – Our journals can be sent by airmail to overseas members, provided that they advise the Membership Secretary and pay an additional subscription to cover airmail postage. See inside front cover for rates.

CODES OF SAFETY, CONDUCT AND DECLARATION FORM – All members attending Society field meetings should be aware of the Society's *Safety Code* (see 2000 *Bulletin* 5(5): 275), as well as the *Code of Conduct for the Conservation and Enjoyment of Wild Plants* (see 1999 *Bulletin* 5(4): 199), and are required to sign a Declaration form. Copies of these documents can be obtained from the Meetings Secretary or BPS website.

GREENFIELD FUND – This fund, set up as a memorial to one of our Society's great fern growers, Percy Greenfield, is used to finance approved projects, helping with the cost of necessary equipment, books and travel expenses. Percy Greenfield's interest leaned very much towards the non-scientific side of our activities and it is felt that he would have wanted this taken into consideration when decisions are made. Workers eligible for university or college grants and similar support are not therefore eligible for help from the fund. Applications will normally be dealt with once a year and should be submitted by 1st November. Anyone wishing to apply for this funding should contact the General Secretary for further information.

CENTENARY FUND – This fund is used to promote the study of all aspects of pteridophytes – horticultural, scientific and educational, whether by amateurs, students or professional pteridologists. As such its scope is much broader and more flexible than the Greenfield Fund. Applications will normally be dealt with once a year and should be submitted by 1st November. Anyone wishing to apply for this funding should contact the General Secretary for further information.

THE J.W. DYCE AWARD – The committee has decided that there should be an award to honour the memory of Jimmy Dyce who was a member from 1935 until his death in 1996. During this time he held all the key committee posts, virtually single-handedly saved the Society from extinction after the war, and contributed in so many other ways to shape the Society as it is today. The award of £100 together with a certificate is to be made annually at the AGM to the author of the best paper, article, book or other substantial piece of work published in any of the three BPS journals, on the BPS website, or as a special publication. Annually the editors will submit up to two entries each to the Greenfield and Centenary Fund Trustees who will consult with experts as necessary to decide on a winner. Winning entries, other than books, will be placed on the website for all to read. The award is open to everyone, whether professional or amateur, pteridologist, horticulturalist or fern enthusiast. We look forward to receiving your contributions!

TREE-FERN SPECIAL INTEREST GROUP – For further information, please either send a stamped addressed envelope to the organiser, Prof. A.C. Wardlaw, 92 Drymen Road, Bearsden, Glasgow G61 2SY, or contact him by e-mail: Tree-Ferns@eBPS.org.uk.

MEMBERS' INFORMATION SERVICE – Members often require information and advice on many aspects of pteridophytes but are reluctant to ask or simply do not know where to obtain help. Queries from members on any aspects of the biology, identification or cultivation of ferns should be sent, with three first class stamps, to the Horticultural Information Officer.

READING CIRCLE – The Society operates a reading circle for the *American Fern Journal*, a quarterly publication containing much information for those seriously interested in ferns. The *Fiddlehead Forum*, which publishes many 'ferny' items of interest to the amateur grower, accompanies it. To receive these journals contact the Horticultural Information Officer.

FOREIGN FERN SOCIETY JOURNALS HELD BY THE SOCIETY – The Society exchanges journals with a number of other fern societies in the world. We have a collection of journals/newsletters from societies in the United States (2), Australia (3), New Zealand, India and the Netherlands. If members would like to browse these, they are welcome to get in touch with the Back Numbers Organiser for a list of our holdings. The journals can then be borrowed for just the cost of postage both ways.

BACK NUMBERS OF JOURNALS – Our Back Numbers are always a good source of Pteridological information. They contain articles written by an array of authors on interesting fern subjects. You can have a sample pack of six journals for £6. A full list of journal parts stocked is available from Pat Acock.

BPS WEBSITE – www.eBPS.org.uk (hosted by The Natural History Museum.) In today's internet-oriented world, it is increasingly important for the Society to see its website as a major means of communication. The website provides information for the membership, but it is also, and perhaps more importantly, a 'shop-window' to present the Society and pteridology to the wider world. Our aim is to make our website the premier source on the internet of information about pteridophytes and pteridology. There have been a number of significant enhancements to the website this year and the whole site is in the process of being revised with a view to a 're-launch' in 2007. There is an Advisory Group to support the website Editor, which helps to identify requirements for our website and to support the work necessary to meet those requirements. Members with views on what the website should provide and with offers to help with content should contact the Website Editor, Anthony Pigott. In particular, we would appreciate suggestions for wild sites for 'Where to See Ferns'; contributions should be sent to Frank McGavigan (frank@mcgavigan2.demon.co.uk), who is assembling this information.

BPS E-MAIL LIST – Members are reminded that there is an e-mail group or 'list' for BPS members only. Its purpose is for discussion of Society matters of common interest and for communication of information; it is not intended as a list to discuss the botany or growing of ferns, for which another list such as UK-FERNS or FERNS would be more appropriate (see the BPS website under 'Links'). Send a blank e-mail to: BPS-subscribe@yahoogroups.com to subscribe. Unless your real name is obvious from your e-mail address, please send an e-mail at the same time to Webmaster@eBPS.org.uk in order to identify yourself as a BPS member. Members are encouraged to join as the potential benefits are greater with fuller participation. Contact the BPS Website Editor for further information.

BPS VIDEO 'BRITISH FERNS' – This twenty-five minute video shows most of the native British ferns growing in their natural habitats. It demonstrates the wide variety of size and form to be found in British ferns and the broad range of habitats they colonise. Attention is drawn to key identification characters for each species.

Schering Agriculture and the National Museum of Wales funded the video. It is available for loan to members and interested organisations for the cost of postage both ways. For further details contact the General Secretary.

BRITISH WILDLIFE – Concessionary individual subscriptions to *British Wildlife* magazine are available to BPS members: www.britishwildlife.com.

ROYAL HORTICULTURAL SOCIETY – Our Society is affiliated to the RHS, enabling a limited number of members to enjoy certain privileges in connection with RHS Shows, competitions and services. Further information is available from the General Secretary.

PAYMENT OF EXPENSES – Documents setting out the *Rules of Conduct for the Treasurer* (BPS/T/1), the *Rules for Seeking Re-imbursement of Personal Travelling and Administrative Expenses* by officers and members acting on behalf of the Society (BPS/T/2), and the *Authorities for Payment* (BPS/T/3) can be obtained from the Treasurer on request.

COPYRIGHT – All contributors to the BPS journals and website are required to sign an agreement assigning ownership of copyright of the article, photograph etc. to the BPS. This has the aim of safeguarding the contributors' work from unlawful copying and use. It does not stop contributors from using their own work elsewhere provided that they acknowledge the original source of publication.

MERCHANDISE – Do you have a BPS sweatshirt, polo shirt or fleece? These are all dark green with a small embroidered BPS logo in yellow. Other items, such as BPS ties, metal badges, ferny greetings cards, bookmarks, pens and mugs, are also for sale. Can't find your order form? Contact the Merchandise Organisers or look on the website for details. The Organisers also welcome suggestions for new stock.

NEW BOOKSALES ORGANISER: Frank Katzer

BOOKSALES – It has now become more difficult to find second-hand fern books at reasonable prices so if you are thinking of selling any of your books please consider first offering them to the Society. Frank would also be pleased to receive any donated or bequeathed books that could then be offered to members at affordable prices. Contact him by e-mail if possible: Booksales@eBPS.org.uk.

DESTINATION OF PTERIDOPHYTE RECORDS – Members are reminded that records of ferns, horsetails, clubmosses and quillworts in the wild should be sent to the appropriate Botanical Society of the British Isles (BSBI) Vice-county recorders, whose addresses are available from the BSBI website or BSBI yearbook, which is available to BSBI members. For those without access to the Internet or yearbook, records may be sent to the BPS Recorder, Fred Rumsey, who will forward them to the BSBI. These records are stored centrally at the Biological Records Centre, and can be accessed by the BPS.

SOUTHPORT FLOWER SHOW – Why not spend a few hours or a day helping man the Society's stand? You do not need to be an expert on ferns or fern growing, just prepared to spend a few hours or a day with us. Expenses are available, as well as free entry to the Show. Details are available from Michael Hayward, 6 Far Moss Road, Blundellsands, Liverpool L23 8TQ. mhaywardL23@blueyonder.co.uk.

BPS FIRST MINUTE BOOK – This historical document containing the Committee Minutes from the inception of the Society in 1891 to 1983 is available in full colour on a CD ROM at £10 per copy, including postage. Place your order with Pat Acock.

NURSERY ADVERTISEMENTS – Members with nurseries that offer ferns are reminded that they may place an advertisement in the *Bulletin*, *Pteridologist* and on the website, free of charge, in return for the inclusion of a note about the Society in their catalogues. A suitable form of words is available from the Secretary. The Website Editor can include an image if required. If members wish their nursery to be included, please contact the General Secretary.

AMERICAN FERN SOCIETY – The AFS has had a reciprocal payment arrangement with the BPS for many years through their respective Membership Secretaries. See AFS advert on p. 432.

WANTED! NEW EDITOR FOR THE *PTERIDOLOGIST* – James Merryweather, our current Editor of the *Pteridologist*, is to retire from the post after the 2007 edition, his tenth! James brought the *Pteridologist* into the world of colour in 1996 and changed the format to its current popular A4 magazine style in 2002. It will be a hard act to follow but we feel sure that there are people amongst our membership that have the skills and drive to take the *Pteridologist* forward. The potential candidate(s) will get support from an editorial team and there is the possibility of help in acquiring any necessary hardware or software. If you would like an informal chat about what is involved, James is happy to be contacted on 01599 566291 or by e-mail: Pteridologist@eBPS.org.uk, or contact Martin Rickard, Chairman of the Publications Subcommittee (Pear Tree Cottage, Kyre, Tenbury Wells, Worcs. WR15 8RN, e-mail: mh.rickard@ntlworld.com).

ANNUAL GENERAL MEETING 2006

MINUTES of the 103rd Annual General Meeting of the British Pteridological Society held on Saturday 25th March 2006 at the University of Cambridge Botanic Garden, at 15.30 hrs.

IN THE CHAIR: The President, Dr A.F. Dyer.

PRESENT: Mr R.G. Ackers, Mr P.J. Acock, Miss A. Beaufoy, Mr C. & Mrs D. Brotherton, Mr A.R. Busby, Mr R.J. Cooke, Mr A.J. Dickman, Mr G. Downey, Dr A.J. Evans, Mr R. Golding, Dr Y.C. Golding, Dr M. Hayward, Mr R. Hood, Mr J.F.D. Hubert, Miss J.M. Ide, Ms E. Knox-Thomas, Dr B.E. Laue, Mr A. Leonard, Mr F. McGavigan, Dr S.D. Martinelli, Mr H.W. Matthews, Mrs K. & Mr S.J. Munyard, Mr A.H. Ogden, Mr A.C. & Mrs M. Pigott, Mr T. Pyner, Mrs B. Porter, Mr M.S. Porter, Miss A.M. Paul, Mr M.H. Rickard, Dr F.J. Rumsey, Mr P. Sharp, Mr B.D. & Mrs G.J. Smith, Mr B.R. & Mrs R. Stevenson, Prof. A.C. Wardlaw, Mr G.H. & Mrs M.D. Winder.

Item 1 – APOLOGIES FOR ABSENCE: Mrs M.P. Ghullam, Dr N.J. Hards, Dr H.S. McHaffie, Mrs J. Neal, Mr L.J. Ponder, Mr R.W. Sykes, Prof. B.A. Thomas, Mrs A. & Mr B. Wright.

President's welcome: The President, Dr A.F. Dyer, welcomed members to the meeting. He thanked the East Anglia group under the leadership of Barrie Stevenson, for the organisation of the day, and made special mention of the 'catering staff', Mrs Karen Munyard, Mrs Gill Smith and Mrs Rosemary Stevenson for the excellent lunch, and the Booksales and Merchandise Managers for bringing their stock to offer members.

Item 2 – APPROVAL OF MINUTES: Minutes of the 102nd Annual General Meeting of the British Pteridological Society held on Saturday 19th March 2005, and published in the 2005 *Bulletin* (Vol. 6, No. 4) were approved and signed by the Chairman.

Item 3 – MATTERS ARISING: At last year's meeting, the Secretary reported the Committee's decision to experiment with a smaller Committee. R.G. Ackers commented that as a result of the planning meeting held in December and resignations subsequent to last year's AGM, it had become obvious that difficulties would arise in the future from a lack of members with Committee experience to replace those officers retiring from Committee positions. Although the intention was to review the experiment after two years, it had essentially been dropped.

Item 4 – REPORT OF THE HONORARY GENERAL SECRETARY (J.M. Ide): Like all good leaders of a team, at its first meeting in 2005, the President set out his aims for the Committee. Looking back at them I believe we went a long way to achieving them in 2005 and your Committee continues to work towards them in 2006. I am not going to reiterate them here, but much of what you will hear in this report and those of other officers and appointees reflect the aims the President set out.

Two subjects in particular exercised the Committee during 2005, and several officers and committee members outside Committee meetings.

QUESTIONNAIRE AND PLANNING MEETING: In March 2005 every member received a questionnaire, drawn up by R.G. Ackers, seeking the views of the membership on a wide range of topics. During the year, R.G. Ackers presented the Committee with analyses of the returns, which the President summarised in his autumn letter. Whilst the President expressed a note of caution, pointing out that fewer than 20% of the membership had replied, the results proved interesting and highlighted items for immediate and future consideration by the Committee and its various officers and Committee appointees. It was particularly pleasing to learn that, on the whole, members were pleased with what the Society offers and any critical comments had a constructive bias. The Committee particularly appreciated the offers of help. An immediate result of the exercise was a

planning meeting, by a small working group, in Edinburgh in December 2005 (see report in 2005 *BPS Bulletin* 6(4): 339-440). The meeting was felt to have been of such benefit that it is planned to hold similar meetings at the beginning of each presidency with the results to be formally documented. The questionnaire and its results are to be archived. The Committee would like to thank R.G. Ackers for his work on the questionnaire.

THE SOCIETY'S ACCOUNTING SYSTEM: The other issue that the Committee spent several hours of its time discussing and resolving was the reporting deficiencies of the Society's various accounts that had come to light at the last AGM. It is hoped that this year the meeting will approve the changes that have been made. There are just two points I would like to mention:

For some years the AGM had been held in the autumn of each year, and although this enabled examined accounts to be presented, the AGM was effectively reporting at least a year 'after the event', if not nearly two years for some items. When the change back to a Spring AGM was agreed, it was realised that the current system of accounting would mean the accounts would be presented unexamined. This was still considered preferential to holding the AGM later in the year, and while the present system of accounting is in place and the AGM held early in the year, unexamined accounts would continue to be presented at the AGM. A suggestion to hold the AGM in April has been made and may help this situation.

Secondly, the Committee has agreed a procedure for the appointment of a delegate willing to present the report of an Officer or Appointee who is unable to attend an AGM. It will be incumbent on the officer or appointee concerned and the delegate to ensure that the delegate is aware of the background and the answers to any points in the report thought likely to lead to discussion at the AGM.

PROVISION OF COMPUTERS FOR OFFICERS AND APPOINTEES: On occasions the Society has purchased or provided a subsidy for computer equipment for members working on behalf of the Society. A document, drafted by the Treasurer and agreed by the Committee, sets out the rules and conditions relating to such purposes and goes under the grandiose title, *Rules and Conditions Pertaining to Computer Equipment Purchased or Subsidised by the BPS for a Member to Enable the Member to Perform a Specific Function.* (Identified as Treasurer's document BPS/T/4)

DATA INTEGRITY OFFICER: In these days much data and information is held on computers and is very vulnerable to being lost by computer malfunction. Dr Michael Hayward prepared a discussion document for the Committee setting out the need for a data integrity policy and the ways by which it might be achieved. The matter is still under discussion, but it is anticipated that the Committee will seek to appoint a data integrity officer, who will be responsible for identifying persons holding critical data, ensuring that officers and appointees regularly back up data they are holding, and advising those requiring guidance on data protection.

GUIDESTAR WEBSITE: A new website came into existence in 2005, *GuideStar UK* (http://www.guidestar.org.uk). It lists all UK registered charities giving details of the objects of the society, the latest annual report and annual statement of accounts, and provides a link to our own website. We are able to update our entry directly and add further information to it. The Society has been given a password to enable this to be done, but it is not required merely for viewing the site. This is a compulsory listing supported by the Charity Commission.

SOUTHPORT FLOWER SHOW: The tradition of a BPS stand at the Southport Flower Show still continues, with M. Hayward taking over from A.R. 'Matt' Busby in its realisation. The Committee sanctioned the purchase of new display boards, the artwork for which has been generously donated by M. Hayward. We understand that his first 'show' was rated a success and we do urge more members, where possible, to support Michael either by helping or visiting the show. We wish him continued success in future years.

FERN ATLAS SUB-COMMITTEE: With the publication of the new atlas and the need for much recording work before the production of an enlarged version can be contemplated, it was felt that the Fern Atlas Subcommittee could serve no further useful purpose at present and should be wound up. If required, it can be re-formed.

SPECIAL INTEREST GROUPS: It would be wrong to present everything 'in the garden' as rosy, in a report such as this, when there are down sides. It is sad to note the demise of two of the three Specialist Interest Groups in recent years – Foreign Hardy Ferns and Filmy Ferns. Although a goodly number of members expressed an interest in the Special Interest Groups, very few indeed contributed, as I found to my cost when I tried to establish one for Aquatic Ferns. A.C. Wardlaw still battles on with the Tree Fern SIG, but I know he finds it hard going, and he is the main contributor to its newsletter, which is not really the purpose of these groups. May I urge interested members to support the group; I am sure Alastair can suggest ways of doing so.

IN MEMORIAM: Once again I finish my report noting very sadly the passing in 2005 of four of the longest standing members of the Society.

Rodolfo E.G. Pichi Sermolli joined in 1954. His international reputation over a wide field was known to many members of the Society, who will remember him for his particular interest in pteridophyte taxonomy and systematics.

Richard 'Dick' Cartwright, an active member since 1959, took over the Spore Exchange and established the Society's slide collection.

Trevor Walker who joined in 1960, and who died suddenly only recently, was respected for his professional achievements, in particular his work on *Pteris*, *Blechnum* and the floras of Trinidad and Jamaica. Within the Society he was also especially appreciated for his contribution to the BPS, including a successful Presidency, and will in particular be remembered fondly for his personal qualities.

Gerhard Schulze, a German member since 1965, was well known to those who met him at GEP (Group of European Pteridologists) field meetings.

It is a great testament to our Society that such eminent persons in their fields should join the Society and remain with it for the rest of their lives.

We should also remember two other pteridologists who, although not members of the BPS, made very significant contributions to world pteridology, and supported the activities of the BPS when invited to do so.

David Given, a New Zealander, was an international figure in plant conservation who had a major influence on plans to conserve pteridophytes worldwide.

Dennis Adams was a tropical botanist of note. Parts 1 & 2 of the *Fern Gazette* Vol.16 (2000) were produced to commemorate his 80th birthday.

Obituaries are to be found in the 2005 issue of the *Bulletin*, with the exception of Trevor Walker's, which is scheduled for the 2006 edition. [See this issue p. 434.]

CONCLUDING STATEMENT: My eight years as Secretary of the Society have been dominated by administrative organisation. As a result, I believe that a strong Society is now even stronger, the administration being supported by a range of carefully thought out documentation to guide officers, appointees and the Committee. There are just a few wrinkles still to be sorted out and they are already knocking on the Committee's agenda door. When they have been dealt with, I hope that time will become available at Committee meetings for 'talking about ferns', an ambition I had for the Committee but never managed to achieve. I would just say 'Go for it!' and wish the President, the Committee, officers, appointees, new or old-hands, best wishes for a productive and, yes, enjoyable time in post.

Finally, I would like to thank all those who have worked with me during my term as Secretary. The job would have been impossible without their support, and although it is invidious to mention some people and not others, I would especially like to thank 'my' three Presidents, Martin Rickard, Alastair Wardlaw and Adrian Dyer. They have all been more supportive than any of you can guess. I would also liked to thank Alison Paul, whose watchful eye in the background kept me on the straight and narrow in more ways than you will ever know! Thank you all very much.

Item 5 – REPORT OF THE HONORARY TREASURER (A. Leonard): A. Leonard made the following comments:

Income:
- The Booksales figure of £200 represented money returned to the main account;
- The Merchandise figure of £377.76 represented credit card charges repaid to the main account;
- Donations were compensation monies paid by the Bank of Scotland for errors made by them.

Expenditure:
- The figure for Subscriptions to Societies of £114 included the annual insurance premium;
- The figure of £494.37 for Merchandise represented monies paid to them through credit card sales.
- Stationery and postage costs appear to be apparently much smaller than in previous years; this is because the cost of the autumn mailing (£508.51) has been reported separately;
- Trustees expenses (£1,072.38) is an item required by the Charity Commissioners.

Fern Gazette:
- We were financially liable to publish two more issues of the *Fern Gazette* for 2005, and the apparent excess of income over expenditure in the balance for the year is thus exaggerated.

Restricted Funds:
- Capital and interest were separated to show more clearly what monies (interest only) are available to distribute in grants; it seems that the Society needs to be more pro-active in attracting applications for grants.

2005 was an exciting year for Publications with the publication of two books and the Society's sponsorship of the Field Studies Council's *Fern Guide* chart. Sales of Special Publications did particularly well in 2005. Over half of the 300 *Fern Guide* cards bought were already sold at the time of this AGM, and two thirds of the 500 copies printed of the *New Atlas of Ferns and Allied Plants of Britain and Ireland* had also been sold. Sales of the volume *Polystichum Cultivars – variation in the British shield ferns* were small, but this had only recently been published. It is looking good for Special Publications.

The Treasurer concluded his report with a comparison of the figures of the major items in his first annual report in 1996 with those in today's statement for 2005. In all categories the figures were well up on those of ten years ago, in particular the rise in subscriptions received from £16,000 to £40,000, which, despite one rise in the subscriptions during this period, represented a big increase in the membership of the Society. All in all the finances of the Society were in a healthy state. (For the examined accounts see p. 430.)

Item 6 – REPORT OF THE MEMBERSHIP SECRETARY (M.S. Porter): In general 2005 was a good year for membership, numbers rising from the disappointing 758 members of 2004 to the very healthy total of 794 – I think this is our third highest ever number of members. However, on analysis, things are perhaps not quite as they seem. Of the 86 new members who joined the BPS in 2005, 31 were members of the American Fern Society with whom we have an Exchange Scheme. This enables members of the AFS to join the BPS through their home society without having to go to the trouble of contacting a membership secretary overseas and coping with the problems of a different currency. Likewise, members of the BPS can join the AFS simply by contacting me and letting me do the work. This reciprocal arrangement has existed for a number of years with roughly equal numbers of AFS and BPS members using the

scheme. However, just over a year ago the AFS added an extra tick box to their online renewal form enabling AFS members to join the BPS simply by ticking a box (and, of course, paying later!). This has brought about the big increase in Exchange members from the other side of the Atlantic. As a high percentage of these new members have continued their membership into 2006, we must assume they are happy with what they have got from their membership of the BPS. We are delighted to welcome them and hope others will follow their example in the future.

The detailed breakdown of BPS membership for 2005, including a comparison with 2004, is as follows: 33 Complimentary or Honorary members (1 down on 2004), 14 Student members (3 up on 2004), 61 Family members (3 up on 2004), 92 Subscribers (4 up on 2004) and 593 Ordinary members (26 up on 2004), giving, as stated before, a total of 794 members. Losses resulted from the deaths of 6 valued members of the Society, 19 resignations (11 fewer than in 2004) and the lapsing of 48 members (5 fewer than in 2004). Most people resigning gave no reason but some spoke of financial considerations. Three people gave other definite reasons for their resignation – one resigned because the US Government was making it so difficult to obtain spores via the Spore Exchange, another found the articles in the journals either too technical or simply lists of holidays or trips and a third who had joined in early November expected his payment for 2004 to cover 2005 as well. It is not current BPS policy to allow this but it might be worth re-consideration.

In reply to a question, M.S. Porter stated that the all time record membership was 801 in 2001.

A. Ogden suggested that members requiring membership of an overseas fern society with which the BPS had reciprocal arrangements for the payment of subscriptions should be able to indicate this in a 'tick box' on the subscription form, paying the subscription at the same time as their subscription to the BPS. Members paying by standing order need only increase their standing order accordingly. This was acknowledged to be a useful innovation and the Membership Secretary and the Treasurer were requested to consider this.

GIFT AID: When the BPS was registered as a charity it became possible for us to claim Gift Aid on each member's subscription. Thus, the Inland Revenue repays us 28 pence for every pound paid in as membership subscription. The rates are as follows: for each Full Member paying £20 we receive £5.60, for each Optional Member paying £16 we receive £4.48, for each Student Member paying £10 we receive £2.80 and for each Family Member making an additional payment of £2 we receive £0.56.

The few provisos are: (1) Gift Aid is available only to members who reside in the UK, (2) members on whose subscription Gift Aid is claimed must be paying income tax or capital gains tax at least equal to the amount claimed, and (3) members whose subscriptions are allowed as an expense in connection with their employment may not claim Gift Aid.

A number of members have written to me saying that because of their financial situation they are unable to give authorisation to claim on their behalf. The number of members who authorise the Society to claim Gift Aid on their behalf continues to increase, if somewhat slowly. Figures for the three years when the Society has been able to claim Gift Aid are as follows:
In 2003, **132** members authorised us to claim Gift Aid and the Society benefited by **£673.68**.
In 2004, **164** members gave us this authorisation and we claimed **£904.96**.
In 2005, **207** members gave us authorisation and we claimed **£1,129 52**.

Item 7 – REPORT OF THE CONSERVATION OFFICERS (F.J. Rumsey & H. McHaffie): F.J. Rumsey had contributed to the production of a new Red-List of British Vascular Plants, which for the first time has ranked species and significant hybrids according to the threat they face. [His own work resulted in ferns being considered for inclusion. *Secretary*] This has formed the basis for proposed revisions to the UK Biodiversity Action Plan process, which he has also been active in delivering. Ferns, as a result, now get greater consideration by the Biodiversity Action Plan and finances for conservation priorities.

The Society has also been active in support of the attempt to persuade the statutory agencies to notify as an SSSI, Smallhanger Waste in Devon, one of the finest sites for *Lycopodiella* in the country and at present at threat of development.

Item 8 – SUBCOMMITTEE (Permanent) REPORTS:

8.1 – MEETINGS SUBCOMMITTEE (P.J. Acock): I feel the balance of the 2005 programme was just right, with something for everyone. Our leaders for the meetings once again did us proud. I would like to pay a special tribute to all these wonderful people who plan and execute the meetings on our behalf. If you had to pay for the expertise and time that our leaders put in, I doubt if you would get half as good a meeting at twice the price. The illustrious band are given the most cursory of descriptions from the Subcommittee and then have to throw themselves into the planning, for up to two years in some instances, and we just enjoy it all with often not the slightest idea how it all runs so smoothly.

All our meetings were well attended this year and, judging from the comments received, greatly appreciated by the participants. Who would have thought sixty would turn up to a meeting on polypods in the New Forest in February! All this was down to the enthusiasm of a new member, Andy Byfield, who approached me with the idea in late 2003. A superb meeting in Catalonia in February was the idea of our Treasurer. Would our Victorian forebears have believed we would be slipping across to Spain for a couple of days to see the magnificent *Asplenium seelosii* and *A. fontanum* from a frozen river? The AGM in Manchester was such a wonderful idea. We had so many new faces joining us and a very good attendance for a gem of a meeting organised by Yvonne Golding and Roland Ennos. Such good company and such good fun over the weekend.

What could have been a disaster in Pembroke turned out to be yet another great meeting thanks to Martin Rickard stepping in at the last minute when our leader for the weekend was suddenly not available. We found out how much expertise the BSBI has in its recorders and how useful they are; we were able to reciprocate by finding a few new records for them. How blessed we are with people abroad who serve the Society so well. John and Margaret Scott put together such a *tour de force* in Philadelphia. What can one say about the places we saw, the gardens we visited and the people. Words fail to describe the generosity of spirit and warmth of companionship that we were able to share with fellow enthusiasts! John and Margaret worked so hard and for this we are so grateful.

Nick Hards always seems able to pull a meeting of interest out of the hat wherever we ask him to hang his hat. He managed to show us the ferns of Oxfordshire and a cultivar for Martin, and the rest of us threw in a few he never knew about. Mike Hayward took over the reins from Matt at the Southport Flower Show with a great stand and now he is going for an even more ambitious programme for 2006. Bryan and Gill Smith said 'yes' to organising a meeting in the Broads thinking it was to be a local meeting but really cut their teeth by turning out a very well organised national meeting, throwing in a few *Dryopteris* × *uliginosa* for good measure.

I would like to say a very special thank you to Graham Ackers who has hosted the subcommittee in all its deliberations over the years and has very sadly decided to retire this year. Graham has been the backbone of the meetings subcommittee since he joined. He has taken the minutes, steadied the ship, made sure we stayed on course, and lead some of the most superb meetings. He took us to Trinidad and those that went will never forget that trip. The autumn meetings have been such a marvel. I asked him how he had put together the superlative autumn meeting on *Polystichum* and he told me the secret: sheer hard work. But do not despair, he has agreed to lead the 2006 autumn meeting.

We welcome on board Martin Rickard and look forward to another splendid couple of seasons. We really could do with having another person on the subcommittee; although it is only one meeting a year, there are a number of other calls on your time in organising in the background but we could break you in easily.

8.2 – PUBLICATIONS SUBCOMMITTEE (Acting Chairman: Dr A.F. Dyer): The sub-committee did not meet during the year but there has been considerable activity which has resulted in the production of all three journals, the publication of two *Special Publications* and enhancement of the website. The questionnaire revealed that each of our publications is rated highly by members, though different members have different preferences. Most of the editors have provided brief reports and these are reproduced below.

BULLETIN (Editor: Alison Paul): The recently published 2005 *Bulletin* was a bumper issue of 92 pages, in spite of hard pruning of some reports. No individual contribution was significantly longer than usual, the increased size being due in part to the number of obituaries, but also, more happily, to having many new members.

The feedback from the questionnaires was interesting, and demonstrated clearly that you cannot please everyone. For example, a few commented that "the cover is outdated" but another said it was "the best cover". A few find the reports of local meetings of little interest and too long, whereas others like the local interest and find the reports a useful record of where to see ferns. The *Bulletin* is an archive record of the Society's activities, but it was encouraging to me that so many members do find the *Bulletin* a useful source of information and a good read.

THE FERN GAZETTE (Editors: Mary Gibby & Andrew Leonard, assisted for the Symposium Proceedings by **H. Schneider & J.C. Vogel**): Parts 1 and 2 of the Proceedings of the Symposium "Ferns for the 21st Century" (*Fern Gazette* Volume 17, Parts 3 and 4, 2005) have been published. Copy was ready for just over half another Proceedings part, and corrections to manuscripts from four authors are awaited. Part 3 of the Proceedings should be ready by April or early May. Three papers are ready for the next standard *Gazette* Part and two further papers are being corrected; which together should make up the Part. It is expected that this issue will be ready by May or June. Papers continue to be submitted for the *Gazette*, and some authors have agreed to write reviews (with thanks to A.F. Dyer) so there is no panic about copy.

It was noted that in the past the average size of an issue was 40 pages. Recently much larger issues have been published. A. Leonard suggested that it should be agreed that 40 pages should be the standard size.

PTERIDOLOGIST (Editor: James Merryweather): I was very satisfied with the 2005 edition of *Pteridologist* despite two minor niggles, both due to production problems, not to content. The printer's machinery was updated in 2004-5 and was less tolerant of my recently 'perfected' output than previously. In the final 'machine proofs' the illustrations came out rather wishy-washy whereas they looked fabulous in the one-off desktop proofs I'd been working from previously. I complained, but we could not work out how my computer might generate more appropriate output in time. We resolved it later, so I think I know what to do next time (fingers crossed). Also, the cover unexpectedly had a white border I had not planned or requested. I still prefer the 'house style' set at the beginning of the volume; others liked the accidental new look.

Due to fumbling over proofs and thin pictures during the summer holiday (not mine) period, the 2005 issue got delayed a few weeks and, since its due date was later than some people preferred, the delay effect was accentuated for them. The agreement is that the 2006 edition will appear, as intended last year, in mid August. If the Society wishes me to issue it sooner (July?), that would not be impossible and I am willing to do my best to entertain such a request. Please let me know.

The copy collection for the next issue is not overwhelming and, although the deadline is long past, I will still accept additional contributions on the understanding I might have to hold some material over if timing or space become limiting factors.

I wish to acknowledge the assistance I received from A.F. Dyer and Y.C. Golding last year, a happy collaboration that continues. I apologise to them for not having dealt with their editorial corrections to current articles for some time, assuring them that *Pteridologist* 2006 is next on my major projects list; activity will recommence at the end of March or in early April.

WEBSITE (Editor: Anthony Pigott): The Committee continue to see the BPS website as having a very important role in the future development of the Society. Accordingly, we have looked at how best to support the maintenance and development of the website and have started a programme of significant enhancements. A list of enhancements and draft site structure for the future has been drawn up. A re-design of the 'look and feel' of the site is underway. In the meantime, a new interim style is being implemented to give the site a fresher and more contemporary look. All new pages will now follow this; existing pages will be progressively converted.

Some recent enhancements have included:

- A new front page. This includes direct links to some of the more popular pages, news of forthcoming events and new items on the website and a featured fern.
- An introductory book list.
- *The Fern Gazette* contents and abstracts are now in place for recent issues.
- Most of '*Where To See Ferns*' has been reviewed and revised by local BPS officers members.
- A '*Fern News*' page, carrying links to news stories about ferns on the Internet.

A number of people are now helping the Editor with the website; more are always welcome.

SPECIAL PUBLICATIONS (Editor: Barry Thomas): Two Special Publications appeared during the year, both of which have been very well received and are selling well:

S.P. No. 7: '*Polystichum Cultivars – variation in the British shield ferns*' based on the text by J.W. Dyce, but made possible and more comprehensive by the editing of Robert Sykes and Martin Rickard.

S.P. No. 8: '*New Atlas of Ferns & Allied Plants of Britain and Ireland*' edited by A.C. Wardlaw and A. Leonard.

OTHER PUBLICATIONS: In addition, the Society sponsored James Merryweather's illustrated '*A Key to Common Ferns*' produced by the Field Studies Council. This has also been selling well at a discounted price from BPS Merchandise.

In concluding his report, the Acting Chairman said that he would like to point out that this output, which is remarkably ambitious for a society the size of BPS, is only possible because of the hard work of several dedicated members who volunteer to do the work. This includes the editors but also several other people who have assisted with editing, copy writing, proof correcting, distribution, etc. We are deeply indebted to all of them for their contributions. However, we cannot assume that they will all continue indefinitely, so if members want this level of activity to continue, new volunteers must come forward when the need is announced.

8.3 – FERN VARIETIES NOMENCLATURE SUBCOMMITTEE (A.R. Busby): The above sub-committee did not meet during the year. It has been decided that unless an important matter arises in fern nomenclature and needs to be discussed, there is no point in holding meetings.

Item 9 – SUBCOMMITTEE (ad hoc) REPORTS:

9.1 – FERN ATLAS SUBCOMMITTEE: No report. See Secretary's Report, Item 4.

Item 10 – COMMITTEE-APPOINTED OFFICERS AND MANAGERS:

10.1 – ARCHIVIST (A.R. Busby): I am pleased to report that I have now completed the initial task of sorting through and listing the contents of the Society's archive. It is a great step forward to have all the Society's property in one place of safe-keeping and we now know what we have and where any particular item can be found.

All the Society's herbarium material is now at the Royal Horticultural Society's herbarium at Wisley and the material is being professionally mounted and catalogued. I look forward to receiving a copy of what we have at Wisley when this task is complete.

I have sorted through the Society's colour-slide collection and they are now kept in A4 pocketed plastic envelopes and number about 1,500. They are stored at my home because they take up little room and I can store them at something near optimum conditions. Further work needs to be done and I hope to produce a detailed catalogue within the next year.

10.2 – BOOKSALES (S.J. Munyard): Sales were slow but steady. I have purchased three consignments of books offered by members during the year. Purchasing books from shops for Booksales is now rare because of the high prices, but if I see a bargain, I buy it for Booksales. I would still like to give up Booksales as the pressures from work are ever growing and free time is less and less.

10.3 – MERCHANDISE (B.D. & G.J. Smith): 2005 was another busy year for Merchandising. We dealt with nearly 60 orders, which came mainly from the UK, but also as far afield as the USA, Switzerland, Luxembourg, Germany, Netherlands and Taiwan. Overall, sales amounted to nearly £2,000, considerably more than the £800 for 2004.

So why the particular success in 2005? The main reasons seem to have been distribution of the merchandise list with the *Pteridologist*, inclusion of the bargain-priced Field Studies Council Fern Guide, inclusion of BPS Special Publications and selling a number of items (such as old style sweatshirts) at 'sale' prices because previously they had not sold very well. Unfortunately, we became victims of our own success, so that at times we were overwhelmed with orders and found it difficult to cope! I am please to say though that Pat Acock has valiantly agreed to take over all sales of Special Publications, which should make life a little easier for us.

Mail order continues to be our main outlet for sales, but we did sell items face-to-face to members by making use of the national meetings at Oxford and Norfolk, the Kew *Polystichum* workshop and at last year's AGM. We also sold items at our local East Anglia and South-East regional meetings, and colleagues in the north again sold a number of items at the Southport Show and at their North-East and North-West AGMs.

We introduced two new ranges – BPS fleeces and eco-friendly BPS address labels for re-using envelopes. Also, thanks to Anne Wright, we continued to add new varieties of her lovely fern greetings cards, and even trialled some fern Christmas cards she had designed. The trials were successful and the Christmas cards are now a stock item.

The current merchandise list (March 2006) boasts some 18 ranges and 36 individual products. The list continues to be available through the BPS website, through routine mailings with other BPS paperwork, and we send out copies when we fulfil orders. Unusually, we do not have plans to introduce any new items during 2006, though we may dip into some of the suggestions that came from last year's questionnaire. And if anyone has any ideas for ferny items they would *really* like to see, please do let us know.

In reply to a question, B. and G. Smith responded that orders could be sent to the Merchandise Manager via the Internet but, as the money is needed before orders are dispatched, these could only be paid for by credit/debit card. There was a problem with card sales in that the charges levied by the bank to process these transactions often meant that BPS was out of pocket on the whole process. The surcharge of £2 added to each of the card sales was not enough to cover the bank charges. Andrew Leonard suggested that a charge of 5% of the purchase price be levied to card customers instead. The Merchandise Manager would consider the best way to rectify this problem.

The President congratulated the Managers on the success they are making of merchandising.

10.4 – PLANT EXCHANGE (R.G. Ackers): Following the distribution of donors' forms with the *Pteridologist* mailing, the Plant Exchange List was compiled and distributed at the end of October 2005.

Statistics for taxa offered are shown below:

Status Code	Plant Status Description	No. in 2003	No. in 2004	No. in 2005
Sp0	Sporeling less than 1 year old	3	10	0
Sp1	Sporeling 1-2 years old	8	13	15
Sp2	Sporeling 2-3 years old	10	13	15
Esp	Established plant	3	11	39
Bul	Bulbil	7	0	0
Rhs	Rhizomes	9	11	1
	Plant status not stated by donor	21	0	0
	Totals	**61**	**58**	**70**

The statistics for participants are shown below:

Category of Participant	2003	2004	2005
Donors (also receive list of course)	8	6	8
List requesters	10	16	19
Total Number of Participants	**34**	**30**	**27**

The higher number of participants in 2003/04 includes those with 'wants', now excluded from the main Plant List and handled separately by including the Wants List in the 2005 *Bulletin*.

Based on the size of the BPS membership, participation numbers continue to be low, particularly considering the opportunity to acquire plants at no cost other than postage. However, this may in part be due to the fact that members often dispose of their surplus plants to other members at our meetings – easier than bothering with packing and postage.

For future years (2007 onwards), the intention is to distribute the donors' forms with the *Bulletin* mailing, which is earlier in the year. This will then allow the Plant Exchange List to be distributed in the spring or early summer, more favourable seasons for growing and distributing plants. It is not known at this stage whether the 'Wants' side of the scheme will continue.

S.D. Martinelli suggested that a wants list might be included on the website, with it being up to each person concerned whether to give their contact details.

R.G. Ackers explained that no Plant Exchange list would be published in 2006 as the number of participants using the exchange is small and they needed time to bring on new plants to exchange.

Item 10.5 – REPORT OF THE RECORDER (F.J. Rumsey): I welcome the production of the BSBI Atlas to which BPS members have contributed data. The fern section of this has now been made available by the Society as a Special Publication and I hope will stimulate recording. A range of targeted recording activities are being planned in conjunction with the meetings programme to re-invigorate this aspect of the Society's extremely scientifically useful activity.

In reply to a question from A.R. Busby, F.J. Rumsey replied that completed record cards should be sent to him.

Several questions and comments were made about the new fern atlas. Publication of the atlas was instigated by A.C. Wardlaw and his co-editor, A. Leonard. An expanded edition with more detailed information about the distribution and ecology of individual ferns had been proposed but there was little point in being in haste to publish it; approximately ten years hence might be a suitable time-frame. During this period, it would be important to motivate and activate the membership to record ferns. A.C. Pigott and P.J. Acock were working together to interpolate recording with the meetings programme. Not all ferns needed to be targeted for recording at the same time, the suggestion being made that the critical groups, such as Dryopteris affinis *agg.,* Cystopteris *and selected hybrids should take priority. As the records for each fern were updated, the results could be published on the website. The interesting (and provocative?) comment was made that paper atlases may not exist in the future!*

10.6 – SPORE EXCHANGE (B. & A. Wright): The exchange continues to be a popular service offered to members. The breakdown of the data from 2005 is as follows, with the figures for 2004 in square brackets. There were 158 [133] requests received and processed, resulting in the sending out of 2,670 [2,247] packets of spores. Of these, 107 [99] requests were from UK members (England 87 [78], Scotland 13 [8], Wales 7 [13]) and 51 [34] from overseas. This reaffirms the international nature of our exchange. The overseas requests were from Australia 2 [1], Austria 1 [3], Belgium 2 [1], Brazil 1[0], Canada 1 [0], Czech Republic 1 [1], Denmark 1 [1], Eire 2 [2], Estonia 2 [1], Finland 3 [1], France 2 [4], Germany 4 [3], Hungary 1 [0], Latvia 1 [1], Luxembourg 1 [1], Mauritius 1 [0], Mexico 1 [0], Netherlands 3 [2], Poland 1 [1], Spain 1 [1], Sweden 1 [0], Switzerland 1 [1], USA 14 [6]. Out of the 690 [679] taxa on the 2005 list, we had requests for 597 [571] of them.

We have continued to streamline our operation of the exchange and will continue to develop our technique to enable members to receive their spores as quickly as possible after they send in their request. The system proposed in the previous report has been adopted by the Committee and there will be new procedures for the 2006 spore exchange. The spore list will only be sent out to those requesting a list and members will be invited to apply for a list with the autumn mailing. Members will then receive a list by either e-mail or post at the beginning of 2006. The distribution will run through the months of January, February, March, and end in April as before. This will save a considerable amount of paper photocopying. We hope that the extra effort involved will not deter people from applying for lists.

Unfortunately, during the year we have received a number of disappointing donations. We are always extremely grateful for donations, but we find it distressing to receive those that prove to contain either no spores at all or so few spores that we cannot list that taxon. This is made worse by the knowledge that the donor would have spent considerable time collecting what they believed to be an adequate donation of spores. In an effort to help current and potential donors we plan to publish a helpful guide to go out with the spore lists and be posted on the website. We also feel that we have now received enough information on the longevity of spores that we will no longer be requesting this information from members. We are now looking for an opportunity to publish these data in one of the Society's publications and on the website.

Grateful thanks to our loyal band of donors and thanks to all of the patient requesters, particularly those early birds that get caught up in the initial rush period immediately following the publication of the list.

F. McGavigan wished to record that B. and A. Wright organised the Spore Exchange superbly.

10.7 – HORTICULTURAL INFORMATION OFFICER (A.R. Busby): It has been another quiet year with only four enquiries concerning the acquisition or growing of ferns including one query from a non-member. All were dealt with satisfactorily.

All the above reports (items 4-11) were approved, proposed by Miss A.M. Paul and seconded by A.C. Wardlaw.

The President noted that reports from the Regional Groups would not be given at this meeting but had appeared in the *Bulletin*, and he thanked the leaders and others for the considerable amount of work they put into organising the meetings for their groups. For some members this was their main, even perhaps sometimes the only, point of contact with the Society, and their importance should not go unrecognised. Society activities do not just happen; they are the product of imagination and hard work by volunteers from the membership. Without them, the Society would not be the force that it is. On behalf of all the members, he thanked everyone who has worked for the Society in the past year.

The length of this part of the Agenda is a reflection of the diversity and vigour of our activities and, provided we do not over-stretch ourselves, it is reassuring evidence of the good health of the Society. The President was impressed with the energy and enthusiasm shown by the membership, and it bodes well for the future.

Item 11 – ELECTION OF OFFICERS, COMMITTEE & INDEPENDENT EXAMINERS:

11.1 – PRESIDENT'S COMMENTS: Before proceeding to the elections, the President addressed the meeting. His comments are reported in full as they explain some important changes in personnel that are occurring at this meeting or during the coming year:

First a word about **Vice-Presidents**. Despite the four vacancies that already exist and the impending retirement of the two remaining Vice-Presidents at next year's AGM, there will be no recommendations for new nominations until the Committee has reviewed the role of Vice-Presidents. It is intended that the Committee's recommendations shall be brought to next year's Annual General Meeting.

COMMITTEE APPOINTMENTS do not need AGM approval and are brought before the meeting for information only, although in some cases they have relevance to elections at this and future AGMs.

Publications Subcommittee Chairman. This post has not been filled in recent years and I and my predecessor as President, Alastair Wardlaw, took on the role in an acting capacity. The role is to oversee, co-ordinate and stimulate all the publication activities, including the website, and to channel advice on all relevant matters from the subcommittee, consisting of the various editors, to the main Committee. I have asked Martin Rickard to take on this role. He has considerable experience of writing and editing publications within and outside the BPS, and no-one is better qualified to look after this aspect of BPS activities, so I am delighted that he has agreed to do this.

I should add at this point that I see Publications, including the website, as one of our main areas of activities, on a level with Meetings, and in the coming year we propose to elevate the post of Subcommittee Chairman to that of elected Publications Secretary, equivalent to Meetings Secretary. For this year, however, it is a Committee Appointment.

Plant Exchange Organiser. Because Graham Ackers is taking on other duties, this post becomes vacant, and I am pleased to report that Jonathan Crowe has agreed to take it on. We thank Graham for the success of the scheme in recent years.

COMMITTEE OFFICERS:

Committee Secretary. The Committee has recognised that the duties of the Secretary have increased as the Society's activities have expanded, and accordingly, following the retirement of J.M. Ide as Secretary, it has been agreed to split the post into two. The Committee Secretary will service the Committee meetings and the AGM, and the General Secretary will deal with all other, including external, matters. The General Secretary is an elected post covered by the existing constitution. Until the Constitution is amended in the near future, the new post of Committee Secretary will be a Committee Appointment, and I am delighted to report that Graham Ackers has come to the aid of the Society and agreed to serve in that capacity.

Project Officer. I have been conscious of the need for the BPS to be more outward looking, and not simply because we have obligations now that we have charitable status. Although our publications have a wider audience, our meetings are essentially for the members. At a time when there is very little fern research of any kind in universities, the BPS must play its part alongside Botanic Gardens in increasing our knowledge of ferns, particularly British native species. We could make more use of our widespread and knowledgeable membership but we do very little about this. Our fern recording activities have subsided somewhat in recent years, so we are not making new information on fern distributions available. We could, for example, conduct investigations of phenology, research difficult taxa like *D. affinis*, study species of ecological interest like wall ferns or urban ferns, or produce identification keys for sporelings and gametophytes, but we do not. We even have limited funds to help members with expenses for such activities, but they are not used, nor do we seek to increase those funds.

The Committee has agreed that we need someone to co-ordinate and promote such activities and we have created the post of Project Officer. An important part of this role will be to liaise within the BPS, for example with the Recorder, Meetings Secretary and Regional Group Organisers to ensure that properly targeted and executed recording is incorporated into the Meetings Programme. Another role will be to ensure that there is good liaison outside the BPS with other bodies with similar interests, and particularly with the BSBI with whom close co-operation on recording will be mutually beneficial.

To fill this role we have appointed A.C. Pigott, who has the contacts, experience and interests to get this off to a good start. We propose to make the post an elected Officer rather than an appointment. We will then have the Committee members responsible for our three main activities: meetings, publications and projects, in posts of equal, senior status on a par with the Membership Secretary.

Booksales Organiser. We have recently found a volunteer for this but this has not yet gone to Committee so he is not yet appointed.

We are looking for a volunteer to appoint to the post of **Archivist**. Matt is holding the fort for one more year but we do need a successor.

11.2 – ELECTION OF OFFICERS & COMMITTEE: Two officers retired at this meeting, the General Secretary (Miss J.M. Ide) and the Treasurer (A. Leonard); the Membership Secretary (M.S. Porter) will be retiring at the end of the year.

As noted previously, the Secretarial position has been divided into two. R.G. Ackers has been appointed by the Committee to the position of Committee Secretary, while Dr Y.C. Golding, has been nominated for the position of General Secretary, formally proposed by Prof. A.C. Wardlaw and seconded by M.S. Porter.

The Committee's nomination for the post of Treasurer was Mrs Gill J. Smith, proposed by M.S. Porter and seconded by M. Hayward.

M.S. Porter is continuing as Membership Secretary until 31 December 2006, and is currently working with his nominated successor, Michael G. Taylor, who will succeed him on 1 January 2007. M.G. Taylor was proposed on the Committee's behalf by A.F. Dyer and seconded by F. McGavigan.

All the remaining officers were eligible for and had agreed to re-election.

Of the present elected members of the Committee, Dr Y.C. Golding was retiring. The remaining Elected Committee Members (R.G. Ackers, A.R. Busby, Dr M. Hayward, F. McGavigan and B.D. Smith) were eligible for re-election. Robert W. Sykes (proposed by M.H. Rickard and seconded by M.S. Porter) and Dr Sylvia D. Martinelli (proposed by A.F. Dyer and seconded by

J.M. Ide) were nominated to be Elected Members of the Committee. Both have served on the Committee before and are willing to work again on behalf of the BPS.

Dr N.J. Hards had agreed to be nominated by the Committee for re-election as Independent Examiner for the accounts.

There being no further nominations from the floor, all the above persons were duly elected unanimously, *en bloc*, by the meeting.

Item 12 – ANY OTHER BUSINESS:

12.1 – PROJECT OFFICER: A.C. Pigott outlined to the meeting his thoughts on his role in the newly created post of Project Officer and how the responsibilities might be developed in future.

12.2 – ROGER GOLDING'S PROPOSED WEBSITE: Member Roger Golding is building a website illustrating the British pteridophyte flora and a proposal was put and agreed that a link should be made to it from the Society's own website. R. Golding still requires more good images of British ferns, preferably digital ones, and a list is available from him on request. It includes a link, with limited information, to allow testing of the website. He hopes to have the website up by the summer. [*Post meeting note: R. Golding's website is now active and can be accessed at* http://www.rogergolding.co.uk/ferns/index.html]

12.3 – PRESENTATIONS TO RETIRING OFFICERS: The President had the pleasant task of presenting engraved glass goblets with Outstanding Contribution Award certificates to the three retiring officers as an expression of the Society's gratitude for their exceptional work on its behalf. The President's citations are summarised below.

Jennifer Ide served for eight years as General Secretary. Over that period, the Society's activities have increased and probably only the last three Presidents know the full extent of what Jennifer has done for the BPS. Her attention to detail, her maintenance of continuity from meeting to meeting, her initiatives in bringing matters to the attention of the Committee, and her grasp of the broader picture in which the Committee and indeed the BPS exists, have all oiled the wheels of the BPS administration and co-ordinated its activities.

Andrew Leonard served for ten years as Treasurer, during which time he has been an effective guardian of our financial resources, advising successive Committees on subscriptions and expenditure, administering our funds, maintaining records and preparing statements of accounts. A sound Treasurer is crucial to the well being of any society and ten years is a long time to carry this responsibility.

When he retires later this year, Mike Porter will have served nearly ten years in the low-profile but crucially important role of Membership Secretary. The membership is the Society and an ineffective Membership Secretary would result in chaos and decline but Mike has been meticulous in maintaining records of our membership and administering the subscriptions while at the same time providing the first point of contact with the BPS for many members and subscribers.

Before closing the meeting the President expressed his thanks to the officers and Committee for their support through the year, and on behalf of all of the membership to everyone who had worked so hard to maintain the many and varied activities of the BPS. He again thanked the East Anglia Group team for a splendid day's programme and catering.

There being no further formal matters for consideration the Chairman declared the meeting closed at approximately 16.20 hours.

Jennifer M. Ide
Hon. Gen. Secretary

BPS ACCOUNTS FOR THE YEAR 2005

2004	ORDINARY ACCOUNT	2005
	INCOME	
£15,699.54	Subscriptions	£15,654.55
602.40	Interest	866.31
1,000.00	Booksales	200.00
116.60	Merchandise	377.76
1,022.76	Inland Revenue Gift Aid	1,129.52
417.76	Donations	50.00
£18,859.06	**TOTAL INCOME**	**£18,278.15**
	EXPENDITURE	
3,413.32	Pteridologist	3,601.95
1,418.18	Fern Gazette	3,706.52
4,497.05	Bulletin	3,340.13
620.26	Printing & Stationery	444.24
1,125.26	Administration & Postage	270.05
107.00	Subscriptions to Societies	114.00
0.00	Plant & Spore Exchanges	118.81
317.90	Meetings	517.82
0.00	Merchandise	494.37
911.19	Trustees' Expenses	1,072.38
705.00	Archive Storage	439.75
0.00	Autumn Mailing	508.51
£13,115.16	**TOTAL EXPENDITURE**	**£14,628.53**
5,743.90	**Balance (income minus expenditure)**	**3,649.61**
14,426.76	Brought forward from previous year	20,170.66
£20,170.66	**Total in Ordinary Account**	**£23,820.27**
	CENTENARY FUND	
291.78	Interest	291.17
–500.00	Grant	0.00
	Interest brought forward from previous year	1,195.72
–£208.22	**Total Interest**	**£1,486.89**
0.00	Donation to Fund	0.00
0.00	171 World of Ferns 171	0.00
	Capital brought forward from previous year	5,583.73
	Total Capital	**£5,583.73**
6,987.67	Total brought forward from previous year	Fund split (note 6)
£6,779.45	**Total in Centenary Fund**	**£7,070.62**
	GREENFIELD FUND	
91.61	Interest	98.17
0.00	Grant	0.00
	Interest brought forward from previous year	1,234.63
£91.61	**Total Interest**	**£1,332.80**
	Capital brought forward from previous year	1,051.00
	Total Capital	**£1,051.00**
2,194.02	Total brought forward from previous year	Fund split (note 6)
£2,285.63	**Total in Greenfield Fund**	**£2,383.80**

PUBLICATIONS ACCOUNT

0.00		Field Studies Council Key to Common Ferns		–375.00
0.00		New Atlas of Ferns		–2,042.78
0.00		Polystichum Cultivars		–2,022.97
303.39		Interest		346.92
365.41		Offprints		130.66
45.00	*124*	Fern Names & Their Meanings	*101*	103.50
34.00	*288*	Cultivation & Propagation	*271*	85.00
26.40	*804*	History of British Pteridology	*776*	72.78
7.50	*425*	BPS Abstracts & Papers	*404*	52.50
30.00	*12*	CD Rom – BPS Minute Book	*5*	70.00
0.00		FSC Key to Common Ferns	*148*	228.00
0.00		New Atlas of Ferns	*110*	1,521.83
0.00		Polystichum Cultivars	*221*	440.00
7,265.75		Brought forward from previous year		8,077.45
£8,077.45		**Total in Publications Account**		**£6,687.89**

MERCHANDISE ACCOUNT

	Income	
360.00	Clothing	£650.75
241.23	Stationery	£426.35
195.80	Other Miscellaneous Items	£201.00
£797.03	**Total Merchandise Income**	**£1,278.10**
	Expenditure	
162.12	Clothing	774.21
398.41	Stationery	244.42
7.50	Other Miscellaneous Items	28.50
137.05	Administration & Postage	509.20
£705.08	**Total Merchandise Expenditure**	**£1,556.33**

BOOKSALES ACCOUNT

	Income	
Not available	Booksales	969.90
Not available	**Total Booksales Income**	**£969.90**
	Expenditure	
Not available	Books	367.80
	Postage & Packing	170.26
	Stationery	57.41
Not available	**Total Booksales Expenditure**	**£595.47**

NOTES TO THE ACCOUNTS

1. The accounts reflect the subscriptions actually received in the year.
2. BPS Booksales had an estimated value of stock of £3,551 (£4,153) and capital of £433.43 as at 31 December 2005.
   BPS Merchandise had an estimated value of stock of £2,350 (£2,290) and capital of £910.68 as at 31 December 2005.
3. The Society also possesses the following assets:
   Back issues of the *Bulletin*, *Fern Gazette* and *Pteridologist* valued at approximately £3,000.
   The editor of *Pteridologist* has a computer valued at £1,133.99 in 2001.
4. The Society made no grants in 2005.
5. The numbers of copies of publications are shown on either side of the title.
   This year a full audit was not done on the Publications marked with an '*'. The figures displayed were calculated by subtracting the numbers sold from last year's totals.

6. The Society has decided to split the two Restricted Funds into 'Capital' and 'Interest'. The 'Interest' section of the Funds is available for payment as grants.
7. At the end of 2005 the BPS were behind with two issues of the *Fern Gazette*. This represents a financial liability of £3,000 - £4,000.

Gillian Smith, Treasurer

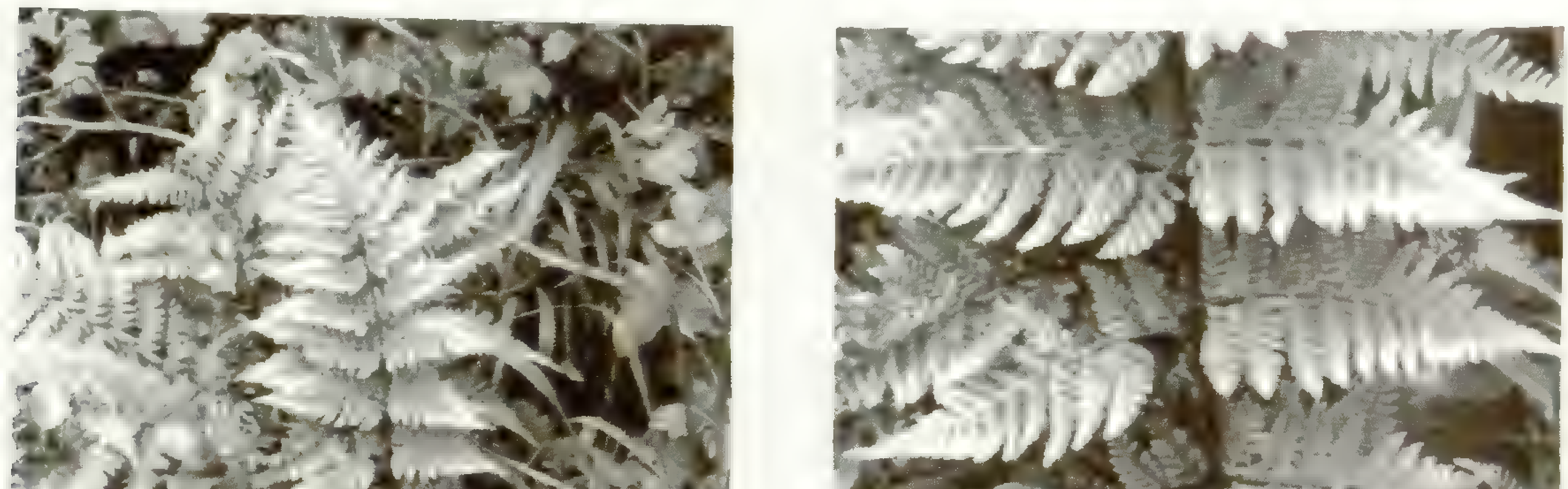
I have examined the accounting records maintained by the Treasurer of the British Pteridological Society for the year ending 31 December 2005, and can certify that the accounts presented to me are in accordance with the books and records.

Dr Nick Hards, Examiner, 3rd September 2006

THE AMERICAN FERN SOCIETY

The AFS invites all readers of this *Bulletin* to join the American Fern Society. You are welcome to visit the AFS website: amerfernsoc.org. Regular members receive *Fiddlehead Forum* five times a year, a newsletter published for those who are interested in growing ferns, hunting for them and expanding their knowledge of ferns. Journal members also receive the scientific quarterly *American Fern Journal*. Membership costs $19 and $32 per annum respectively for members residing outside USA, Canada or Mexico, including postage for airmail-assisted delivery. For particulars please write to Dr George Yatskievych, Missouri Botanical Garden, P.O. Box 299, St Louis, Missouri 63166-0299, USA (george.yatskievych@mobot.org). Online credit card payment is now available for the AFS via the AFS website.

AFS SUBSCRIPTION PAYMENTS: Our societies have an exchange arrangement whereby members of the BPS can pay their AFS subscription through the BPS Membership Secretary and *vice versa*. To take advantage of this, prospective members residing in Great Britain should contact Mr M.G. Taylor, Westlea, Kyleakin, Isle of Skye IV41 8PH (Membership@eBPS.org.uk).



photos: K. Trewren

Putative *Dryopteris aemula* × *D. dilatata*, South-West Ireland

A Visit to Ireland to Investigate Two Putative Fern Hybrids

(A Grant from the Centenary Fund)

Financial assistance was provided to enable me to visit Glengarriff Nature Reserve in south-west Ireland in May-June 2006 for the following purposes:

1. To collect a specimen for a chromosome count from the plant that was thought to be a possible *Dryopteris aemula* × *D. dilatata* hybrid when seen during the field meeting of the British Pteridological Society in May 2003.
2. To collect a specimen for a chromosome count from the plant that was thought to be a possible hybrid between *Hymenophyllum tunbrigense* and *H. wilsonii*.

Putative *D. aemula* × *D. dilatata* hybrid

In 2003 a single plant was seen that appeared to be morphologically intermediate between the putative parents (see 2003 *BPS Bulletin* Vol. 6 No. 2, p.90, para. 7 & see pictures, left). A sample was fixed, and later examination revealed abortive spores (see picture, right), but a chromosome count was not achieved due to the lack of cells at the appropriate stage of division.

Unfortunately, the plant no longer exists. Since I saw it in May 2003, there has been some 'tidying up' alongside the road which runs into the reserve, and, as a result of repeated strimming, there is now a well-established grass verge where there was formerly rough vegetation. The bushes that formerly grew on the riverbank have also been cut down. This was a devastating blow for me, since I was convinced that the plant was, indeed, the hybrid in question, not least because of its abortive spores.

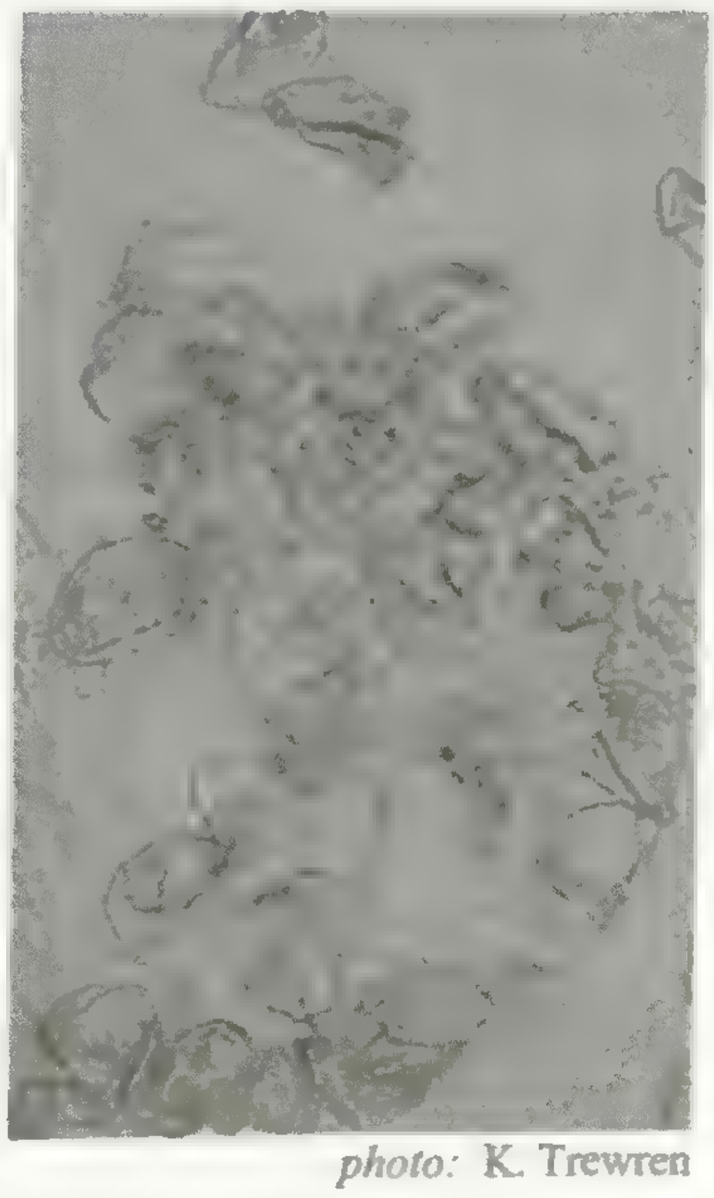


photo: K. Trewren

Spores of putative *Dryopteris aemula* × *D. dilatata*

Putative *H. tunbrigense* × *H. wilsonii* hybrid

The colony that was thought to be a possible hybrid in 2003 was growing on a rock-face only about 50 metres from the putative *Dryopteris* hybrid. Both of the parents are growing on the same rock. Further examination of the colony in 2006 revealed that the combination of characters from the parental species is because both species are growing in the same mat, with the rhizomes intermingling. This gave the impression of a colony in which the fronds arch away from the substrate and curve downwards (*H. wilsonii*), but with toothed indusial valves like those of *H. tunbrigense*.

Dryopteris affinis complex

Although this aspect of the study was not actually funded by the grant, I used the opportunity of visiting south-west Ireland to pursue my interest in the *D. affinis* complex in the area. I travelled extensively, stopping off at places of interest, and collected material from 27 distinctive looking plants. In addition to *Dryopteris affinis* subsp. *kerryensis*, the material included two variants that seem particularly distinctive, and may constitute taxa worthy of nomenclatural recognition at some level.

Many thanks to the British Pteridological Society for providing a grant towards my expenses, although I am very disappointed that the findings of the study, apart from *D. affinis*, were negative.

Kenneth Trewren

OBITUARIES

TREVOR GEORGE WALKER DSc FLS

12 January 1927 – 12 January 2006

Trevor Walker was born and grew up in York, and attended the Archbishop Holgate's School where he was Head Boy. On leaving school he did his obligatory National Service (1945-1948) and chose the Royal Air Force, eventually spending most of his time in India and Singapore.

He had already chosen to go to university, and on returning to civilian life immediately went to Leeds to study botany. The professor there, Irene Manton, had been developing cytological techniques for pteridophytes whereby one could postulate inter-relationships between genera and species by studying the pairing of chromosomes seen in the nucleus at the stage of meiosis. This work had a fundamental significance to the study of their classification and evolution, an aspect on which she had recently published in relation to British and related European ferns. Manton soon gathered around her a number of junior staff and doctorate students whose research interests centred on ferns. That was the atmosphere in which Trevor Walker found himself very early in his career and it was to be fern cytology that Trevor developed and dedicated his research time to for the rest of his life, with Irene Manton as his mentor until her death in 1988.

Having been able to apply her cytology to elucidate the taxonomy of temperate ferns, and having been stimulated by the account of the ferns of Malaya by Prof. Eric Holttum, Manton wanted to look at tropical fern cytology. The island of Ceylon (Sri Lanka) has a rich fern flora, and in 1951 she went there with one of her staff, Dr Arthur Sledge, to bring back ferns to grow in the Leeds University Botanic Garden. Trevor, having graduated in 1952, jumped at the chance of studying for a PhD under Prof. Manton. Using the material then in Leeds he was to work particularly on the genera *Thelypteris* and *Pteris*, and in 1954 he went to Ceylon with Sledge to collect more live ferns, and also learned from Sledge how to prepare good herbarium specimens.

photo © University of Newcastle upon Tyne

Trevor G. Walker, 1993

In 1956 Trevor submitted his thesis and was offered a junior lectureship at Leeds. As a result of his PhD studies he was able to publish a new genus related to *Pteris* (*Idiopteris*), and two other papers[1]. During his postgraduate time at Leeds he had met another postgraduate student, Molly Shivas, who was working on *Polypodium* and *Asplenium*, and they were married later that year.

In 1957 Trevor, accompanied by Molly, went for a year to the University of the West Indies at Mona in Jamaica on a British Commonwealth University Exchange scheme. He met up with George Proctor, an experienced local botanist at the Jamaica Museum

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[1] Walker, T.G. 1957. *Idiopteris*: a new genus of ferns from Ceylon. *Kew Bull.* 11(3): 429–432.
1958. Hybridisation in some species of *Pteris* L. *Evolution* 12(1): 82–92.
1960. The *Pteris quadriaurita* complex in Ceylon. *Kew Bull.* 14(3): 321–332.

in Kingston, and with his help was able to travel widely throughout the island and collect a large array of ferns, sending both spores and plants back to Leeds for later studies[2].

Trevor returned to Leeds for a further year but his assistant lectureship ended in 1959, and, there being no vacant tenure post there, he was fortunate to obtain such at the University of Newcastle-upon-Tyne (then still a College of Durham University), where he spent the rest of his working and post-retirement life continuing cytotaxonomic studies on ferns, and travelling extensively in the old and new world tropics to collect material.

It was in his last year at Leeds that I met Trevor. I had just taken up a position at the Natural History Museum to work specifically on the taxonomy of ferns. Although my research interests had not been in ferns, I was aware of 'the Leeds school' and wanted to make contact with people there. As Molly was working on British ferns, I first contacted her and, typical of the Walker hospitality, I was invited to visit them in Leeds. Trevor showed me the living ferns he had sent back from Jamaica and explained his research. His enthusiasm for, and understanding of, tropical ferns, although limited at that time, was sufficient to get my imagination working on future travels.

In the long vacation of 1963, Trevor organised a three-month trip to the University of the West Indies in St Augustine, Trinidad, and asked me if I could join him. We had an exciting three months collecting ferns for the new greenhouses at Newcastle University Botanic Garden, Trevor checking developing spores of each species with his field microscope to ensure they were at the right stage before chemically preserving samples for more detailed studies in Newcastle. During this time I saw a disciplined worker who wasted little time, but always found time to relax and explore his surroundings and in particular to enjoy the local food. The substantial paper[3] he eventually submitted on this material was a major part of his DSc.

Two years later, it was my turn to ask Trevor if he could get away from teaching to come to Papua New Guinea with two colleagues from the NHM and me. He jumped at the chance. This was an expedition in the true sense; we spent four weeks on patrol in the Finisterre Mountains in eastern NG, organised with the help of the Forestry Department, PNG, and a similar period on shorter trips from Lae by boat, helicopter and roads – where they existed. In spite of moving on every few days, Trevor would set up his lab bench and microscope to check his material before fixing to ensure he was not wasting his time.

In 1970 Trevor again teamed up with the Natural History Museum and RBG, Kew to collect in Java and Sulawesi. The latter island was particularly productive and more plants were sent back to Newcastle, now with further greenhouses to accommodate Trevor's enlarging collection. Trevor extended that trip to spend a further three months at Bogor Botanic Gardens in Java, where Molly joined him with their young daughter.

Eight years later, Trevor joined me on the Royal Geographical Society / Sarawak Forestry Department survey of Gunung Mulu National Park. From a wide range of forest types and montane scrub in the relatively small area of 53,000 hectares he was able to make a good collection of fern chromosome fixings representing most of the genera found in Malesia.

Two further trips were made to collect ferns, this time again in the New World, to Costa Rica in 1986, where we were able to join a collecting trip organised by Conservation International (CI) from the USA. During this visit Trevor made a special study of the *Blechnum occidentale* complex and made a further visit to Venezuela the following year to

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[2] Results published in Walker, T.G. 1966. A cytotaxonomic survey of the pteridophytes of Jamaica. *Trans. Roy. Soc. Edinburgh* 66: 169–237.

[3] Walker, T.G. 1985. Cytotaxonomic studies of the ferns of Trinidad 2. The cytology and taxonomic implications. *Bull. Br. Mus. nat. Hist.* (Bot.) 13(2): 149–249.

photo: A.C. Jermy

Trevor Walker fixing ferns in Costa Rica, 1986

collect more cytological material and living plants. He continued to work on this material after his retirement in 1997.

Trevor's dried field collections and cytological voucher specimens are in the herbarium of the Natural History Museum, London (BM).

Trevor Walker's research was fundamental, and whilst new techniques may fine-tune his conclusions they will not change the significance of his research. He had no need to jump onto bandwagons but kept on with his study of the cytology of tropical ferns, receiving financial support from the Nuffield Foundation, UK Science Research Council and the Royal Society of London, amongst others. He gave papers at conferences when invited if he felt his contribution was relevant but he would not push to be heard. He held a visiting professorship in the University of Aarhus, Denmark in 1976. He enjoyed his teaching and sharing his experience of other parts of the world with his undergraduate students and supervised (in a kindly and fatherly way) some five research students, two of whom made ferns their career.

Trevor was active in the Natural History Society of Northumbria, and a strong supporter of the role of the Hancock Museum in wider education. A collection of his published papers is held there.

Trevor was elected President of the BPS 1994-1997, during which time he encouraged the Society to capitalise on members' collective horticultural knowledge of ferns in both its meetings and publications. In retirement he joined his good friend, Bert Hennipman, and a group of horticulturalists in Holland to share his skills in hybridising ferns in order to combine the attractive foliage of selected *Pteris aspericaulis* forms for the house-plant trade. Unfortunately, the gene pools available in cultivation and the work involved prevented it becoming an economic venture but he showed the potential.

Trevor was a good plantsman and a keen gardener, growing fruit and vegetables and exotics, especially trees and shrubs. He grew many plants from his own seed for the annual sale of the National Council for the Conservation of Plants and Gardens (NCCPG) North East Group (of which he was Chairman and constituency representative on the national Council). He was always keen to share his knowledge – and living plants – with others of similar interest.

Trevor was held in high esteem by his colleagues in Newcastle University. He kept in contact with like-minded botanists around the world, always willing to comment on potential publications, especially for younger researchers. Several have written to say that his comments were made in a gentlemanly and kind way. He and Molly held an open house for any pteridologist passing between London and Edinburgh. He will be missed too by those many gardening friends with whom he shared his knowledge of plants and gardens.

Trevor was a strong family man and during all his travels, in his letters home, shared every day's adventure with his wife, Molly and son, Robert and daughter, Alex. To them we extend our sincere condolences.

A.C. Jermy

DOREEN M. HOLLY

1924 – 2006

Doreen Holly joined the Society in 1979 and was a regular at both indoor and field meetings for many years. I first met Doreen and her husband Keith when they provided refreshments in their North Oxford garden after a Society meeting at Oxford Botanic Gardens in 1983. She had a collection of choice ferns including some particularly good *Polystichum setiferum* varieties, which have thrived over the years despite the rather inhospitable growing conditions (for ferns) in Oxfordshire. It was always a pleasure to meet Doreen and Keith on field meetings and other occasions. She was a gardener and rambler who cared deeply about the environment. She was given a green funeral, which was a celebration of her life and particularly her love of ferns and her enthusiasm for the Society. A poem 'Maidenhair' by Edgar Fawcett was read (reproduced below), *Dryopteris filix mas*, *D. affinis*, *Polystichum braunii* and *Nephrolepis* were in the floral tributes, and fresh young fronds were put in her grave by the family.

Nick Hards

MAIDENHAIR

WHEN deep in some dim glade we pause,
Perchance we mark how winds caress
These lowly sprays of quivering gauze,
Aerial in their slenderness.

The ruffled leaves of vapory green
Fringe mimic branches, fine as thread,
Above slim stems whose ebon sheen
Is always mellowing into red.

Near trees or bushes hardier born,
They group as fragile, where you pass,
As though in shreds a mist of morn
Yet lingered on the balmy grass.

Ah, shadowy ferns, in such frail ways
Your lightsome, flexuous throngs are wrought,
I half am tempted, while I gaze,
To question of my wondering thought
If silvery whispers of the breeze
Have found, as through the woods they went,
In your phantasmal delicacies
Ethereal embodiment!

Edgar Fawcett (1847-1904)

IN MEMORIAM

We were also sorry to learn of the death of the following members (date joined BPS in brackets):

Dr Anthony Griffin of Cornwall (2004)

Mr Malcolm Heywood of East Yorkshire (2002)

Mrs Rosemary Stevenson of Suffolk. Though officially a family member for about six years. Rosemary had been a stalwart member of the East Anglia Regional Group for much longer. She welcomed and encouraged new members, provided excellent refreshments at many local and several national BPS meetings, and gave her husband, Barrie, unswerving support during his ten years as organiser of the Group. She will be greatly missed and we offer our condolences to Barrie.

Mr Graham Thomsit of London (1980)

Mr Bryan Williams of Northants. (1996)

MEMBERSHIP LIST: ADDITIONS AND AMENDMENTS

NEW MEMBERS

** new members 2006, ** new members 2007, # members rejoined 2006, ## members rejoined 2007*

* Ambachtsheer, Mr D., Abbevillelaan 34, 5627 Mz Eindhoven, Netherlands. Dirk.Ambachtsheer@hetnet.nl
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* Bennett, Mr J.M., 21 Osborn Road South, Fareham, Hants. PO16 7DF
* Botanic Gardens, Gampaha, Sri Lanka. indrawansha76@yahoo.com
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** Cameron, Ms F., 2 Beech Cottages, Pennybridge, Ulverston, Cumbria LA12 7TE
* Cooper-Driver, Dr G.A., Landfall, Coverack, Helston, Cornwall TR12 6TF
** Cowell, Mr J., Flat 6, Arnewood Court, Flexford Lane, Sway, Lymington, Hampshire SO41 6DN
** Dace, Mr A.P., 95 Knole Lane, Brentry, Bristol, Avon BS10 6QH
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* Folkard, Mr H.L.F., The Bungalow, Grindlow, Great Hucklow, Buxton, Derbys. SK17 8RJ
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* Huggins, Mr C., 19 Sparrows Herne, Basildon, Essex SS16 5JH. chris.huggins@blueyonder.co.uk
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\# Husby, Mr C.E., FIU Biological Sciences, OE167, 11200 S.W. 8th Street, Miami, Florida 33199, USA. chad.husby@fiu.edu
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* Jaques, Mr D.T., 59 Manor Road, Verwood, Dorset BH31 6DT
* Kuntz, Mr D., 1507 Cherry Lane, Uniontown, Ohio 44685-7706, USA. dkuntz@raex.com
* Lagacé, Dr J., 471 Chemin de l'Érablière, St.Gerard-des-Laurentides, QC G9R1V7, Canada
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** Norbury, Mr I., 28 Painswick Road, Cheltenham, Glos. GL50 2HA
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* O'Ryan, Mr J.P.B., 84 Mill Hill Road, Norwich, Norfolk NR2 3DS
* Owen, Mrs L. & Mr V.J., 58 Old Budbrooke Road, Hampton Magna, Warwick CV35 8RR
* Perry-Zoupanou, Mrs C.P., 55B The Avenue, Alverstoke, Gosport, Hants. PO12 2JX
** Pierce, Mr R.S. & Mrs C., 93 Avenue du Bois de la Cambrre, Brussels 1050, Belgium
* Riehl, Ms P.A., 2107 12th Ave East, Seattle, WA 98182 4115, USA
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** Rosser, Miss E.J., 62 Lynwood Drive, Merley, Wimborne, Dorset BH21 1UQ
* Skinner, Mr N.T., 15 Edgewood Drive, Lenox, MA 01240-2101, USA
** Skinner, Mr B.P.G. & Miss A.J. Stern, 55 Saint Swithuns Road, Bournemouth, Dorset BH1 3RG
* Spencer, Dr D.C., 41 Digby Close, Tilton-on-the-Hill, Leics. LE7 9LL. spencerdc@btinternet.com
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** Stephenson, Mr L., 12 Gainsborough Road, Grindon Village, Sunderland SR4 8HU
* Stevens, Mr R.W., Glan Llyn, Caernarfon Road, Llanberis, Gwynedd LL55 4EL, Wales
* Towill, Dr L.R., School of Life Sciences, Arizona State University, P.O.Box 874501, Tempe, Arizona 85287-4501, USA. towill@asu.edu

van Meulder, Mr J., Staionstraat 81a, Houthalen 3530, Belgium
* Vanstraelen, Mr D., Nieuwheidestraat 3, Niel-Bij-As, 3668, Belgium. d.vanstraelen@telenet.be
* Wardani, Miss W., J.L. Gereja 4, Bogor, West Java 16122, Indonesia
* Watson, Ms L.J., 16 Shellard Road, Filton, Bristol BS34 7LT
* Whittingham, Dr R.N., 9 Bradford Road, Gloucester, Glos. GL2 0SY
* Wilson, Mr R., Dobbie's Lane End, Little Urswick, Ulverston, Cumbria LA12 0PS. urswick@hotmail.com
# Woods, Mr A., 8 Clarkson Row, London NW1 7RA
* Yates, Mrs S. & Mr B., Lancs.

CHANGES OF ADDRESS

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Golding, Mr R., 23 Tormount Road, London SE18 1QD
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MEETINGS PROGRAMME 2007

Meetings Secretary: P.J. Acock
Meetings Subcommittee: M.H. Rickard, N.J. Hards, J.M. Ide, R.J. Cooke, P.H. Ripley

Sat. 24 - Sun. 25 March	**AGM & Spring Indoor Meeting – Edinburgh, RBGE** Leader: Frank McGavigan
Fri. 3 - Tues. 7 Aug.	**Overseas Field Meeting – France/Italy** Leaders: Paul Ripley & Sebastian Sant
Fri. 10 - Sun. 12 Aug.	**Weekend Garden Meeting – North Wales** Leader: Martin Rickard
Thurs. 16 - Sun. 19 Aug.	***Southport Flower Show: BPS Stand** Further Info.: Michael Hayward
Sat. 1 - Sun. 2 Sept.	**Weekend Field Meeting – Peak District** Leader: Paul Ruston
Sat. 29 - Sun. 30 Sept.	**Weekend Field Meeting – Lincolnshire** Leaders: Paul Ripley & Graeme Clayton
Tues. 2 - Tues. 16 Oct.	**Overseas Field Meeting with Hardy Fern Foundation – Dallas, Texas, USA** Leader: Naud Burnett
Sat. 3 Nov.	**Autumn Indoor Meeting – Wisley, Surrey** Leader: Jennifer Ide

** Event supported by, but not organised by, the BPS.*

For further details of these and other meetings of interest to members, including information on accommodation, please see the separate Meetings Programme sheet. This can be sent to overseas members on request and is also available on the BPS website.

Regional Meetings

Please note: Regional group meetings are open to all members, so if you are travelling through or holidaying in one of the following areas area you would be very welcome to join in. For details of meetings please see the BPS website or contact the regional organisers by e-mail, or by post enclosing a stamped addressed envelope.

Yorkshire	Bruce Brown, 4 Bank Parade, Otley, West Yorks. LS21 3DY e-mail: Yorkshire@eBPS.org.uk
South-East England	Paul Ripley, The Coach House, The Old Rectory, Roman Road, Aldington, Ashford, Kent TN25 7EF; e-mail: SouthEast@eBPS.org.uk
East Anglia	Tim Pyner [new address not yet available] e-mail: EastAnglia@eBPS.org.uk
North-West England	Peter Campion, Lake View, Castle Hill, Bassenthwaite, Keswick, Cumbria CA12 4RG; e-mail: NorthWest@eBPS.org.uk
Cornwall	Matt Stribley, 8 St George's Road, Truro, Cornwall TR1 3JE e-mail: Cornwall@eBPS.org.uk
Scotland	Frank McGavigan, 12 Glenbank Avenue, Lenzie, Glasgow G66 5AA e-mail: Scotland@eBPS.org.uk

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